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COAL COMBUSTION RESIDUAL RULE
ASSESSMENT OF CORRECTIVE MEASURES
FGD-A POND

Oak Grove Steam Electric Station
Robertson County, Texas

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1.0 INTRODUCTION

On behalf of Oak Grove Management Company LLC (Luminant), Bullock, Bennett & Associates, LLC (BBA) has prepared this Assessment of Corrective Measures (ACM) report for the FGD-A Pond at the Oak Grove Steam Electric Station (OGSES) located in Robertson County, Texas (hereafter, the Site). This ACM was conducted in accordance with 40 C.F.R. § 257.96 of the federal Coal Combustion Residual (CCR) Rule, which has been adopted by the State of Texas at 30 T.A.C. § 352.961.

This ACM was initiated on May 31, 2024, due to the detection of a release of impounded water from FGD-A Pond. Approximately 4 inches of rain was measured onsite overnight on May 30 to May 31, 2024. Site personnel observed FGD-A Pond overflowing at 08:12 a.m. on May 31, 2024 across an approximately 70-foot long section of the south dike of FGD-A Pond (Figure 1). Site personnel noted that FGD-A Pond stopped overflowing at 09:59 a.m. that same morning. A temporary berm was constructed in the ditch downslope of FGD-A at the approximate location shown on Figure 1 to contain the released water. The captured water was then pumped back into FGD-A Pond on the same day as the release.

This ACM report was completed in accordance with 40 C.F.R. § 257.96 to assess corrective measures to address potential environmental impacts due to the release of water from FGD-A Pond. This report incorporates the results of a field investigation conducted in the FGD-A Pond area in June and July 2024, after the release occurred. The objectives of the field investigation were to:

- Select constituents subject to this ACM based on CCR Appendix IV constituent concentrations in water samples from FGD-A Pond that exceeded groundwater protection standards (GWPSs); and
- Evaluate the nature and extent of Appendix IV constituents that exceed groundwater protection standards (GWPSs) in CCR groundwater monitoring program wells located hydraulically downgradient of FGD-A Pond and the release area.

2.0 SITE BACKGROUND

The OGSES is located approximately 10 miles north of the city of Franklin in Robertson County, Texas. Construction of the OGSES began in the mid-1980s; however, plant construction was suspended shortly thereafter prior to completion. OGSES construction resumed in 2007 and the plant was commissioned in 2010. The OGSES is expected to remain in operation for the foreseeable future, depending on future power demands.

The FGD Ponds (FGD-A, FGD-B, and FGD-C) are located approximately 2,500 feet northwest of the OGSES power generation units (Figure 1). FGD-A construction began in the mid-1980s, but pond construction stopped when construction of the OGSES was suspended (Golder 2016a). FGD-A construction resumed in 2007 and was completed in 2008. FGD-A covers an area of approximately 9.4 acres and stores CCR and other wastes generated from the OGSES prior to recycling or disposal in the OGSES Ash Landfill 1 located onsite. FGD-A was formerly considered a lined CCR surface impoundment in accordance with §257.71(a)(1)(i) of the CCR Rule; however, the pond was reclassified as an unlined impoundment based on the August 2018 DC Circuit Court Ruling. FGD-A was retrofitted in accordance with 40 C.F.R. § 257.102(k) in 2022. The retrofitted liner system in FGD-A consists of the following components (from bottom to top):

- Minimum 2-foot thick layer of compacted clay exhibiting a hydraulic conductivity of no more than 1 $x10^{-7}$ cm/sec (previous clay liner remaining after pond excavation);
- A geosynthetic clay liner (GCL) placed in areas of the pond where a minimum of 2-feet of compacted clay was not remaining after pond excavation was completed;
- A 60-mil HDPE geomembrane liner;
- A 1.5-foot thick layer of protective soil; and
- A concrete revetment mat placed over the upper portion of the pond side slopes.

3.0 REGIONAL AND SITE SETTING

3.1 Regional Geology

The Site is located in the outcrop area of the Eocene-aged Wilcox Group, which is divided into three formations in the region: the Calvert Bluff, Simsboro, and Hooper Formations (in order from youngest to oldest) (Barnes 1970). The FGD Ponds are completed in the Calvert Bluff Formation, which consists primarily of unconsolidated to moderately consolidated clay and silt, with various amounts of interbedded sands and lignite. The depositional environment of the Calvert Bluff Formation is associated with fluvial-deltaic processes such as inter-channel crevasse splays, overbank deposits, and localized channel sands.

3.2 Regional Hydrogeology

Groundwater wells completed in the channel sands of the Calvert Bluff Formation are typically used for domestic and stock watering purposes. Groundwater within the upper 100 feet below ground surface (bgs) in the region typically flows under unconfined to semi-confined conditions. The direction and rate of groundwater movement in the Calvert Bluff Formation are affected by a number of physical features, including topography, surface drainage, and geology. The natural groundwater potentiometric surface in these shallow flow systems is generally a subdued replica of topography. In general, groundwater flows from high topographic areas (recharge zones) toward stream valleys (discharge zones). Groundwater divides generally coincide with surface drainage divides.

Golder Associates, Inc. (now WSP) performed a survey of water supply wells located in the vicinity of the FGD Ponds in May 2019 as part of a TCEQ Texas Risk Reduction Program (TRRP) assessment of the Site. A Drinking Water Survey Report (Golder, 2019a) documenting the water well survey activities and findings was approved by the TCEQ in a letter dated August 12, 2019. No water production wells were identified downgradient of the FGD Ponds during the drinking water survey.

3.3 Site Hydrogeology and CCR Monitoring Well Network

The CCR groundwater monitoring well network at the FGD Ponds was established in 2015 using monitoring wells FGD-1, FGD-2, FGD-3, FGD-4, FGD-5, FGD-6, FGD-8, FGD-11, and FGD-12, which are each screened in the uppermost groundwater-bearing unit (GWBU) of the Calvert Bluff Formation. Boring logs for the CCR monitoring wells are provided in Appendix A. Based on soil borings completed at the Site, the geology near the FGD Ponds generally consists of an upper zone of relatively thick, interbedded sand and clay strata, which is underlain by a lower zone of interbedded silty to clayey sand and well sorted sand. The uppermost GWBU occurs under unconfined conditions within the shallow sand units at the Site.

Groundwater elevations have historically been highest near the western side of the OGSES Ash Landfill I, which is located southwest of the FGD Ponds, and decrease in the direction of Twin Oaks Reservoir, which bounds the OGSES facility to the north and east. Groundwater potentiometric maps from the most recent CCR Annual Groundwater Monitoring and Corrective Action Report for the Site (BBA 2024) are presented on Figures 2 and 3. Since CCR monitoring began in 2015, the inferred

groundwater flow direction at the Site has been to the east-northeast. Based on the inferred groundwater flow direction and the timing of pond construction, the FGD Pond CCR monitoring wells are classified as follows:

Upgradient/Background Wells	Downgradient Wells
FGD-8 FGD-11	FGD-1 FGD-2 FGD-3 FGD-4 FGD-5 FGD-6 FGD-12

CCR groundwater monitoring wells FGD-2, FGD-3, FGD-4, and FGD-6 are located hydraulically downgradient of FGD-A Pond and the 2024 FGD-A Pond release area.

4.0 NATURE AND EXTENT EVALUATION

In accordance with 40 C.F.R. § 257.95(g), BBA performed a nature and extent evaluation to identify concentrations of Appendix IV constituents in groundwater that might exceed GWPSs due to the May 2024 release from FGD-A Pond. The historical CCR groundwater monitoring program and nature and extent evaluation are discussed in this section.

4.1 CCR Groundwater Monitoring and Corrective Action Status

To comply with the CCR Rule, background monitoring of groundwater in the vicinity of the FGD Ponds began in November 2015 and was completed in December 2016. Groundwater samples collected during the background monitoring period were analyzed for Appendix III and Appendix IV constituents to establish background concentrations in accordance with the requirements of 40 C.F.R. § 257.94(b).

A detection monitoring program was initiated in September 2017 pursuant to the requirements of 40 C.F.R. § 257.94. The evaluation of the initial detection monitoring data was completed in 2018 using procedures described in the CCR Statistical Analysis Plan (Golder 2022a) to evaluate potential statistically significant increases (SSIs) of Appendix III parameters above background concentrations. Based on the identification of SSIs for one or more Appendix III parameters, an assessment monitoring program was established pursuant to 40 C.F.R. § 257.94(e)(1) on July 16, 2018.

The CCR units are currently operating under an assessment monitoring program as described in 40 C.F.R. § 257.95. As described in the most recent CCR Annual Groundwater Monitoring and Corrective Action Report for the Site (BBA 2024), SSLs above GWPSs were not identified for any of the Appendix IV constituents in any of the FGD-Pond area CCR monitoring wells during the 2023 monitoring period.

4.2 2024 Field Investigation

Field investigation activities associated with the May 2024 release from FGD-A Pond included collection of pond water samples from FGD-A Pond and groundwater samples from the four wells located hydraulically downgradient of FGD-A Pond (FGD-2, FGD-3, FGD-4, and FGD-6). The objectives of the field investigation were to:

- Select constituents subject to the ACM based on CCR Rule Appendix IV constituent concentrations in FGD-A Pond water samples that exceed GWPSs; and
- Evaluate the nature and extent of Appendix IV constituents that exceed GWPSs in CCR groundwater monitoring program wells located hydraulically downgradient of FGD-A Pond.

FGD-A Pond water samples were collected by BBA staff on June 17-18, 2024, and July 10, 2024, using sampling procedures consistent with those described in the CCR Groundwater Monitoring Plan for the Site (Golder 2022b). The samples were collected in appropriate containers, stored on ice, and shipped to the analytical laboratory (DHL Analytical of Round Rock, Texas) for analysis. All samples were received by the analytical laboratory in good condition and within appropriate holding times.

4.2.1 Summary of FGD-A Pond Sample Results

Appendix IV results for 2024 ACM and historical FGD-A Pond water samples are summarized in Table 1, and the laboratory analytical reports for the 2024 ACM FGD-A Pond water samples are provided in Appendix B. Appendix IV constituents that exceeded GWPSs in the FGD-A Pond water samples during the 2024 ACM investigation included cobalt, fluoride, lithium, and selenium. The pond water sample results for all other Appendix IV constituents were below GWPSs. Based on the FGD-A Pond water sample results, the target Appendix IV constituents for this ACM are cobalt, fluoride, lithium, and selenium.

4.2.2 Summary of Groundwater Sample Results

Appendix IV results for the 2024 ACM and historical groundwater samples from the FGD Pond area CCR monitoring wells are summarized in Table 1, and the laboratory analytical reports for the 2024 ACM groundwater samples are provided in Appendix B. In addition, Appendix III groundwater sample data from the Site are summarized in Appendix C.

In accordance with the CCR Statistical Analysis Plan for the Site (Golder 2022a) and USEPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-Unified Guidance (USEPA 2009), the 95% lower confidence limit of the mean (LCL) concentration for each Appendix IV constituent is compared to the GWPS to ascertain if an SSL above the GWPS exists. The data set used to calculate an LCL is based on current and historical Appendix IV constituent concentrations. An SSL over the GWPS is indicated at a CCR unit when the LCL for at least one Appendix IV constituent at a monitoring well is greater than the applicable GWPS. Graphical representations of the FGD groundwater sample data, LCLs, and GWPSs for each Appendix IV constituent are presented in Appendix D. As shown on the Appendix IV groundwater sample data graphs in Appendix D, none of the Appendix IV constituent LCLs exceed GWPSs in any of the FGD monitoring wells, including the monitoring wells located hydraulically downgradient of FGD-A Pond that were sampled as part of this ACM investigation; therefore, there is no indication of SSLs over the GWPSs in the FGD Pond area and the extent of potential impacts to groundwater due to the release of water from FGD-A Pond has been effectively delineated.

5.0 ASSESSMENT OF CORRECTIVE MEASURES

In accordance with 40 C.F.R. §§ 257.96 and 257.97, an ACM was conducted for the following Appendix IV constituents that were detected in the FGD-A Pond water samples at concentrations above GWPSs:

- Cobalt, fluoride, lithium, and selenium

Potential response technologies were identified for groundwater response actions in the event that groundwater becomes affected at the Site in the future. The results of the ACM are presented in this section.

5.1 Corrective Measures Objectives and Evaluation Criteria

Potential corrective measures must meet the requirements specified in 40 C.F.R. § 257.97(b):

1) Be protective of human health and the environment;
2) Attain the groundwater protection standard as specified pursuant to 40 C.F.R. § 257.95(h);
3) Control the source(s) of releases to reduce or eliminate, to the maximum extent feasible, further releases of constituents in appendix IV to this part into the environment;
4) Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, considering factors such as avoiding inappropriate disturbance of sensitive ecosystems; and
5) Comply with standards for management of wastes as specified in 40 C.F.R. § 257.98(d).

In accordance with 40 C.F.R. § 257.96(c), the assessment of potential corrective measures alternatives must include an evaluation of the following:

1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
2) The time required to begin and complete the remedy; and
3) Institutional requirements, such as state or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

5.2 Potential Groundwater Response Technologies

For the purposes of this ACM, the target Appendix IV constituents are cobalt, fluoride, lithium, and selenium based on concentrations of these constituents in water samples from FGD-A Pond that exceeded GWPSs. In this section, potential groundwater response technologies to address these constituents are identified and screened for further consideration in developing potential corrective measures alternatives.

5.2.1 Monitored Natural Attenuation

MNA refers to the reliance on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific groundwater remediation objectives within a time frame that is reasonable compared to that offered by more active remediation methods (USEPA 2007a). MNA relies on a range of natural processes, including physical, chemical, and biological processes that reduce the mass, toxicity, mobility, volume, or concentration of contaminants in groundwater. Routine groundwater monitoring would be required to verify MNA is occurring at the Site.

Where necessary, MNA processes can be enhanced through the use of low-energy, in-situ techniques to stimulate or increase the attenuation of contaminants or reduce contaminant loading (ITRC 2010). Enhancement options include increasing the attenuation capacity of the aquifer, decreasing the mobility of contaminants, and/or increasing the stability of immobilized contaminants by increasing the ability of aquifer solids to remove contaminants from groundwater and/or manipulating the geochemistry to reduce remobilization of contaminants by desorption or dissolution of precipitates.

MNA has been demonstrated effective in reducing concentrations of the target Appendix IV constituents in groundwater (ITRC 2010; USEPA 2007b). The estimated time to implement MNA is estimated to be approximately 1 year including design and construction. The estimated time to achieve GWPSs for the target Appendix IV constituents is dependent on site-specific conditions. As stated previously, GWPS exceedances were not identified for any of the target Appendix IV constituents in CCR monitoring wells located downgradient of FGD-A Pond during the 2024 ACM investigation; therefore, groundwater corrective measures are not currently required.

5.2.2 Groundwater Extraction and Treatment

Groundwater extraction and treatment is one of the most widely implemented groundwater remediation technologies and is used to provide 1) hydraulic containment and 2) treatment (USEPA 1996). A groundwater extraction and treatment system consists of the following major components:

- A series of extraction wells or trenches strategically located to modify/interrupt the natural flow of groundwater;
- Extraction pumps installed in each well/trench to pump groundwater from the subsurface;
- A treatment system to remove constituents of concern from the extracted groundwater; and
- A point of discharge for the treated groundwater (surface water, re-injection to groundwater, etc.).

A system of extraction wells would be installed along the downgradient edge of FGD-A Pond to provide hydraulic control of the target Appendix IV constituent groundwater plumes. The extracted groundwater would be treated in an on-site treatment system and treated water would be discharged to Twin Oaks Reservoir or re-injected into the aquifer.

Potential groundwater treatment methods for the target Appendix IV constituents include the following:

- Cobalt - ion exchange, adsorptive media, activated carbon, and chemical treatment with membrane filtration (USEPA 2019a).
- Fluoride - reverse osmosis, activated alumina, ion exchange, lime softening, electrodialysis, and adsorption (USEPA 2019a).
- Lithium - reverse osmosis, precipitation/co-precipitation, and ion exchange. (USACE 2010).
- Selenium - reverse osmosis, activated alumina, coagulation/filtration, lime softening, and electrodialysis (USEPA 2019a).

Treatment methods for these constituents would need to be bench/pilot tested to evaluate their effectiveness prior to designing a full-scale system. Treatment will generate residual material (sludge, regenerate brine, etc.) containing concentrated levels of the target Appendix IV constituents that must be managed.

Groundwater extraction and treatment would be effective in reducing contaminant concentrations in groundwater downgradient of FGD-A Pond through hydraulic containment, but would have little effect on groundwater conditions beneath the pond. The time to implement groundwater extraction and treatment is estimated to be approximately 3 to 4 years, including testing, design, and construction. The time to achieve GWPSs for the target Appendix IV constituents is dependent on site-specific conditions. Groundwater modeling would be needed to better evaluate remedial timeframes. As stated previously, GWPS exceedances were not identified for any of the target Appendix IV constituents in CCR monitoring wells located downgradient of FGD-A Pond during the 2024 ACM investigation; therefore, groundwater corrective measures are not currently required.

5.2.3 Vertical Hydraulic Barrier

A vertical, low permeability hydraulic barrier can be installed to provide a physical barrier to groundwater flow to contain the migration of contaminated groundwater. Vertical hydraulic barriers that have been demonstrated effective at controlling groundwater flow include the following (USEPA 1998):

- Slurry Wall. Slurry walls consist of a narrow, excavated trench that is filled with a soil-bentonite slurry mixture. The slurry shores and supports the trench walls and forms a low-permeability barrier in the trench. Key design considerations include wall depth, key depth, and material compatibility. Slurry trenches can be excavated to depths of 50 feet using standard excavators and over 80 feet using long-reach excavators or a crane mounted drag line/clamshell bucket. Geosynthetic materials can be placed in the trench in conjunction with the slurry wall to improve the hydraulic performance (decrease permeability) and chemical resistance.
- Soil-Mixed Wall. Soil-mixed walls form a hydraulic barrier through in-situ mixing of soil with amendments, such as bentonite and/or cement. Soil-mixed barrier walls can be installed to depths of over 100 feet. The walls are installed by sections or panels that overlap to achieve a continuous barrier.

- Grout Curtain. Grout curtain barriers are constructed by injecting grout into the subsurface in an overlapping injection pattern to form a continuous barrier. Grouted barriers can be installed using permeation grouting, jet grouting, or vibrating beam technologies. Grouted barriers must be designed and constructed to ensure hydrofracturing does not occur and the completed wall is effective at restricting groundwater flow.
- Sheet-pile Wall. Sheet-pile walls consist of steel, vinyl, or other materials driven into the subsurface using a hydraulic percussion hammer or vibratory hammer. Sheet-pile walls are common in civil engineering applications; however, their use in environmental applications has been more limited. One of the major concerns with sheet-pile walls in environmental applications is leakage through the vertical joints between piles; however, improvements in pile interlock designs have been made to improve joint sealing.

For a vertical hydraulic barrier to be effective, the bottom of the barrier must be "keyed" into a low-permeability confining layer. A detailed engineering analysis and design, likely including a bench/pilot test to identify most appropriate barrier materials, would be required for the construction of a vertical hydraulic barrier.

For FGD-A Pond, the vertical hydraulic barrier would be constructed along the downgradient edge of the pond to provide hydraulic control of the groundwater plume. A vertical hydraulic barrier physically interrupts the natural flow of groundwater; consequently, groundwater elevations upgradient of the barrier will rise, potentially to the point that groundwater could begin to flow around the edges of the barrier. To address this concern, a groundwater extraction and treatment system would be required upgradient of the barrier to control the groundwater levels. The groundwater extraction and treatment system used in conjunction with the vertical hydraulic barrier would be similar to the system described in Section 5.2.2; however, the required capacity of the system would be less since the rate of groundwater extraction would be limited to that required to control upgradient groundwater levels.

Construction of a vertical hydraulic barrier is expected to require significant effort and time. Prior to implementation of the barrier, pre-design field work, including site investigations and bench/pilot-scale barrier material testing would be required, followed by full-scale design and construction. The time to implement a vertical hydraulic barrier with groundwater extraction and treatment is estimated to be approximately 5 to 8 years, including testing, design, and construction. The estimated time to achieve GWPSs for the target Appendix IV constituents is dependent on site-specific conditions. Groundwater modeling would be needed to better evaluate remedial timeframes. As stated previously, GWPS exceedances were not identified for any of the target Appendix IV constituents in CCR monitoring wells located downgradient of FGD-A Pond during the 2024 ACM investigation; therefore, groundwater corrective measures are not currently required.

5.2.4 Permeable Reactive Barrier

A permeable reactive barrier (PRB) is an in-situ, permeable treatment zone that contains reactive media designed to intercept impacted groundwater and either immobilize contaminants or transform the contaminants to a more desirable state (ITRC 2011). A PRB is a passive treatment system that acts as

a barrier to groundwater contamination but not groundwater flow. The PRB must intercept the flow of impacted groundwater and must be designed and constructed such that impacted groundwater cannot bypass the reactive media by flowing over, under, or around the PRB. A PRB must include the appropriate reactive media and the residence time within the PRB needs to be sufficient to allow for effective treatment. The effectiveness of the reactive media will be reduced over time and the media will likely have to be replaced periodically. Groundwater monitoring is used to evaluate the performance/effectiveness of a PRB system.

There are two primary PRB configurations: continuous and funnel-and-gate. A continuous PRB features permeable reactive media across the entire length of the barrier. A funnel-and-gate PRB uses sections of vertical hydraulic barriers to direct groundwater flow through permeable reactive media sections that allow the groundwater to pass through while treating contaminants. In both configurations, the permeability of the reactive media must be greater than the aquifer to ensure flow is not diverted around the PRB media. For FGD-A Pond, the PRB system would be constructed along the downgradient edge of the pond to provide control of the groundwater plume.

PRB systems are generally considered a proven technology, however, site conditions and the specific contaminants of interest affect the system performance. The potential applicability of a PRB system for the target Appendix IV constituents can be summarized as follows:

- Cobalt - potentially removed using sulfate-reducing media or combination of zero-valent iron (ZVI) and organic material (Ludwig 2002; ITRC 2011)
- Fluoride – potentially remediated using calcite or limestone for removal through sorption (Turner 2008).
- Lithium – potentially precipitated as phosphate using appetite media (Arnseth 2018).
- Selenium – potentially remediated using organic material to decrease red-ox conditions for removal through sorption and/or precipitation (USEPA 2019b; ITRC 2011).

Removal of the target Appendix IV constituents using a PRB system has not been consistently demonstrated under full-scale conditions and bench/pilot-scale testing would be required to confirm the effectiveness of a PRB system at the Site. A groundwater model would be needed to evaluate the remedial timeframes.

Similar to a vertical hydraulic barrier, construction of a PRB system is expected to require significant effort and time. Prior to implementation of the PRB, pre-design field work, including site investigations, groundwater modeling, and bench-scale soil mix testing would be required, followed by full-scale design and construction. The estimated time to implement a PRB system is estimated to be approximately 5 to 8 years, including testing, design, and construction. The time to achieve GWPSs for the target Appendix IV constituents is dependent on site-specific conditions and groundwater modeling would be needed to better evaluate remedial timeframes. As stated previously, GWPS exceedances were not identified for any of the target Appendix IV constituents in CCR monitoring wells located

downgradient of FGD-A Pond during the 2024 ACM investigation; therefore, groundwater corrective measures are not currently required.

5.2.5 In-situ Chemical Treatment

In-situ Chemical Treatment (ICT) involves the injection of a chemical reagent or other material into the groundwater aquifer to adjust the geochemistry to enhance the direct precipitation, co-precipitation, or related adsorption/precipitation of the target contaminants (USEPA 2019c). Direct precipitation occurs when a constituent exceeds its solubility in water and precipitates out of solution. Co-precipitation refers to the removal of a constituent through adsorption onto the precipitate of another chemical reaction. Injection wells would be installed into the aquifer along the downgradient edge of FGD-A Pond and the chemical reagents would be injected to provide control of the target Appendix IV constituent groundwater plume.

ICT is considered an emerging remediation technology for the target Appendix IV constituents and the effectiveness of the technology on the constituents is uncertain. Bench/pilot-scale testing would be required to confirm the effectiveness of an ICT system at the Site. The time to implement an ICT system is estimated to be approximately 5 to 8 years, including testing, design, and construction. The estimated time to achieve GWPSs for the target Appendix IV constituents is dependent on site-specific conditions. Groundwater modeling would be needed to better evaluate remedial timeframes. As stated previously, GWPS exceedances were not identified for any of the target Appendix IV constituents in CCR monitoring wells located downgradient of FGD-A Pond during the 2024 ACM investigation; therefore, groundwater corrective measures are not currently required.

5.2.6 Phytoremediation

Phytoremediation refers to the use of plants to partially or substantially remediate selected contaminants in soil, sludge, sediment, groundwater, surface water, and wastewater (USEPA 2001). The process utilizes a variety of plant biological processes and plant physical characteristics to aid in remediation; however, the primary plant process potentially applicable to the target Appendix IV constituents at the Site is phytoextraction, which is the uptake and accumulation of contaminants within aboveground portions of a plant. The contaminants are removed from the Site when the plants are harvested and managed off-site.

Phytoextraction occurs in the root zone of plants, which is typically relatively shallow, with the bulk of roots at shallower rather than deeper depths. This would limit the effectiveness of phytoextraction at the Site due to the depth of groundwater. Implementation of a phytoremediation process at the Site would involve planting appropriate vegetation at intervals along the downgradient edge of FGD-A Pond and across the affected groundwater plume area. A comprehensive bench/pilot testing program would be required to select the most appropriate plants for removal of the target Appendix IV constituents from groundwater at the Site. Since the target Appendix IV constituents would likely accumulate in the plants, management of harvested plants in accordance with RCRA could be required. The time to implement the phytoremediation system is estimated to be approximately 15 to 20 years, based on the success and rate of vegetation growth. The estimated time to achieve GWPSs for the target Appendix

IV constituents is dependent on site-specific conditions. Groundwater modeling would be needed to better evaluate remedial timeframes. As stated previously, GWPS exceedances were not identified for any of the target Appendix IV constituents in CCR monitoring wells located downgradient of FGD-A Pond during the 2024 ACM investigation; therefore, groundwater corrective measures are not currently required.

5.3 Screening of Potential Groundwater Response Technologies

Following identification of potential groundwater response technologies, BBA screened the potential options for further consideration in developing potential corrective measures alternatives. The screening results for each potential groundwater response technology are summarized in Table 2. Based on the initial screening, the following potential groundwater response technologies were retained for future evaluation as remedies for potentially affected groundwater due to the release from FGD-A Pond:

- Monitored Natural Attenuation
- Groundwater Extraction and Treatment
- Vertical Hydraulic Barrier

A summary of the corrective measure alternatives, including an assessment of each alternative against the evaluation criteria presented in §257.96(c), is provided in Table 3.

5.4 Remedy Selection

Based on the FGD-A Pond sample results during the 2024 ACM investigation, the target Appendix IV constituents for this ACM included cobalt, fluoride, lithium, and selenium; however, no GWPS exceedances were identified for any of the target Appendix IV constituents in CCR monitoring wells located downgradient of FGD-A Pond during the 2024 ACM investigation. As such, there is no indication that groundwater at the Site has been affected by the release from FGD-A Pond and corrective measures are not currently required. Appendix IV constituent concentrations in groundwater will continue to be monitored on a semiannual basis as part of the assessment monitoring program to confirm that the concentrations remain below GWPSs in the future. It is anticipated that one of the groundwater response technologies that were retained for future evaluation in this ACM will be selected as the remedy if a release from the FGD Ponds causes SSLs above GWPSs for cobalt, fluoride, lithium, or selenium in the future.

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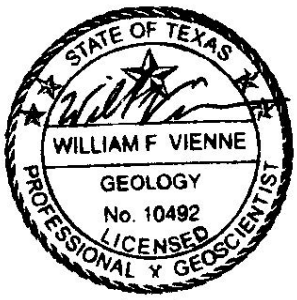
Signature Page

BULLOCK, BENNETT & ASSOCIATES, LLC

William F. Vienne, P.G.
Senior Hydrogeologist



08/20/2024

PROFESSIONAL CERTIFICATION

This document and all attachments were prepared by Bullock, Bennett & Associates, LLC under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I hereby certify that this Assessment of Corrective Measures for FGD-A Pond at the Oak Grove Steam Electric Station has been prepared in accordance with the requirements of 40 C.F.R. §257.96 and 30 T.A.C. § 352.961.

Kimberly A. S. Maloney, P.E.
Senior Engineer
Texas License No. 85511
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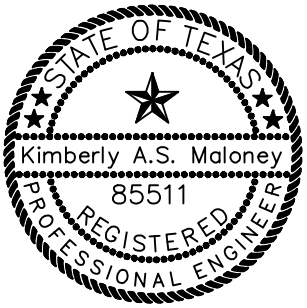

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TABLES

TABLE 1
APPENDIX IV ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	F (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Tl (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Combined^ (pCi/L)
	GWPS:	0.006	0.0146	2	0.0040	0.005	0.1	0.016	4	0.015	0.149	0.002	0.1	0.05	0.002	--	--	11.2
Upgradient Wells																		
FGD-8	11/04/15	<0.0008	<0.002	0.119	<0.0003	<0.0003	0.00542	<0.003	0.173 J	<0.0003	0.149	<0.00008	0.0261	<0.002	<0.0005	0.671	1.38	2.05
	12/17/15	<0.0008	<0.002	0.179	<0.0003	<0.0003	0.00373 J	0.00646	0.361 J	<0.0003	0.116	<0.00008	0.00404 J	<0.002	<0.0005	<0.609	1.32	1.93
	02/09/16	<0.0008	0.0115	0.892	<0.0003	<0.0003	0.00234 J	0.00609	0.331 J	0.000406 J	0.0104	<0.00008	<0.002	0.00231 J	<0.0005	1.77	3.55	5.32
	04/14/16	<0.0008	0.0146	0.965	<0.0003	<0.0003	0.00202 J	0.00876	0.218 J	0.0016	0.016	<0.00008	<0.002	0.00211 J	<0.0005	0.973	8.34	9.31
	06/14/16	<0.0008	0.00639	0.792	<0.0003	<0.0003	<0.002	0.0158	<0.100	0.00137	0.015	<0.00008	<0.002	<0.002	<0.0005	1.93	2.30	4.23
	08/24/16	<0.0008	<0.002	0.102	0.000417 J	<0.0003	0.0107	0.015	0.186 J	0.00381	0.0265	<0.00008	<0.002	<0.002	<0.0005	0.778	<0.491	1.27
	10/05/16	<0.0008	0.00661	0.753	<0.0003	<0.0003	0.00672	0.00899	0.413	0.000908 J	0.0224	<0.00008	<0.002	<0.002	<0.0005	1.35	5.96	7.31
	12/23/16	<0.0008	0.0119	0.894	<0.0003	<0.0003	0.00259 J	0.00745	<0.100	0.00228	0.0185	<0.00008	<0.002	0.00217 J	<0.0005	2.17	3.70	5.87
	06/05/18	<0.0008	0.00839	0.834	<0.0003	<0.0003	<0.002	0.0193	<0.100	0.00039 J	0.0128	<0.00008	<0.002	<0.002	<0.0005	1.5	5.13	6.63
	09/06/18	NA	0.0137	0.635	<0.0003	<0.0003	<0.002	0.0243	0.362 J	<0.0003	0.009 J	NA	<0.002	0.0025 J	<0.0005	0.349	1.4	1.75
	05/16/19	<0.0008	0.0126	0.864	<0.0003	<0.0003	0.003 J	0.0146	<0.100	<0.00194	0.009 J	<0.00008	<0.002	0.0027 J	<0.0005	3.14	5.27	8.41
	08/19/19	<0.0008	0.00645	0.608	<0.0003	<0.0003	<0.002	0.0135	<0.100	0.00134	0.0144	<0.00008	<0.002	0.00252	<0.0005	1.79	6.82	8.61
	05/11/20	<0.000800	0.00663	0.732	<0.000300	<0.000300	<0.00200	0.0084	<0.100	0.000415 J	0.0152	<0.0000800	<0.00200	0.0021 J	<0.000500	2.07	6.58	8.65
	09/15/20	NA	0.00796	0.777	<0.000300	NA	0.00287 J	0.00379 J	<0.100	0.00107	0.00864 J	NA	<0.00200	<0.00200	<0.000500	2.5	6.2	8.7
	06/17/21	<0.0008	0.00749	1.1	<0.0003	<0.0003	<0.002	0.0067	<0.100	0.000766 J	0.0125	<0.00008	<0.002	<0.002	<0.0005	2.69	5.14	7.83
	10/11/21	<0.000800	0.00786	0.994	<0.000300	<0.000300	<0.00200	0.00312 J	<0.100	0.00119	0.00851 J	<0.0000800	<0.00200	0.00265 J	<0.000500	1.2	6.78	7.98
	05/10/22	<0.000800	0.0073	1.22	<0.000300	<0.000300	0.00280 J	0.00453 J	0.112 J	0.00117	0.0249	<0.0000800	<0.00200	0.00244	<0.000500	2.67	4.69	7.35
	09/27/22	<0.000800	0.00788	1.22	<0.000300	<0.000300	0.00403 J	0.00804	<0.100	0.00134	0.0209	<0.0000800	<0.00200	<0.00200	<0.000500	3.73	6.28	10.0
	05/26/23	<0.000800	0.00497 J	1.15	<0.000300	<0.000300	0.00374 J	0.00862	0.360	0.00103	0.0278	<0.0000800	<0.00200	<0.00200	<0.000500	2.33	5.91	8.24
	08/22/23	<0.000800	0.00857	1.14	<0.000300	<0.000300	0.00604	0.0118	<0.100	0.00368	0.0223	<0.0000800	<0.00200	<0.00200	<0.000500	10.9	7.5	18.4
	05/21/24	<0.000800	0.00607	1.1	<0.000300	<0.000300	0.00228 J	0.0105	0.182 J	0.00103	0.0265	<0.0000800	<0.00200	<0.00200	<0.000500	3.25	8.4	11.7
FGD-11	11/04/15	<0.0008	<0.002	0.0527	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.000727 J	0.0144	<0.00008	<0.002	<0.002	<0.0005	0.928	<1.41	2.34
	12/17/15	<0.0008	<0.002	0.0676	0.000303 J	<0.0003	<0.002	<0.003	0.13 J	0.000987 J	0.016	<0.00008	<0.002	<0.002	<0.0005	0.786	<1.63	2.42
	02/09/16	<0.0008	<0.002	0.271	<0.0003	<0.0003	<0.002	<0.003	0.548	<0.0003	0.011	<0.00008	<0.002	<0.002	<0.0005	1.39	2.64	4.03
	04/14/16	<0.0008	<0.002	0.26	<0.0003	<0.0003	0.00222 J	<0.003	0.671	0.0012	0.011	<0.00008	<0.002	<0.002	<0.0005	1.69	2.43	4.12
	06/15/16	<0.0008	<0.002	0.216	<0.0003	<0.0003	<0.002	<0.003	0.331 J	0.000407 J	0.0126	<0.00008	0.00238 J	<0.002	<0.0005	2.34	2.06	4.40
	08/25/16	<0.0008	<0.002	0.439	<0.0003	<0.0003	0.00465 J	<0.003	0.128 J	0.00179	0.011	<0.00008	<0.002	<0.002	<0.0005	4.23	3.58	7.81
	10/04/16	<0.0008	<0.002	0.55	<0.0003	<0.0003	<0.002	<0.003	0.579	0.000618 J	0.0124	<0.00008	<0.002	<0.002	<0.0005	1.73	2.53	4.26
	12/22/16	<0.0008	<0.002	0.734	<0.0003	<0.0003	0.00258 J	<0.003	0.127 J	0.000635 J	0.0124	<0.00008	<0.002	<0.002	<0.0005	3.94	5.09	9.03
	06/05/18	<0.0008	<0.002	0.520	<0.0003	<0.0003	0.0372	0.007	0.836	0.00891 J	0.0102	<0.00008	0.00266 J	<0.002	<0.0005	4.64	4.22	8.86
	09/06/18	NA	<0.002	0.702	<0.0003	<0.0003	0.0039 J	<0.003	1.09	<0.0003	0.0121	NA	<0.002	<0.002	<0.0005	6.24	6.47	12.71
	05/16/19	<0.0008	<0.002	0.347	<0.0003	<0.0003	0.028	<0.003	0.38 J	0.000576 J	0.0145	<0.00008	0.00358 J	<0.002	<0.0005	2.39	2.75	5.14
	08/19/19	<0.0008	<0.002	0.310	<0.0003	<0.0003	0.00391 J	<0.003	0.63	<0.0003	0.0136	<0.00008	0.00238 J	<0.002	<0.0005	1.39	2.55	3.95
	05/11/20	<0.000800	<0.00200	0.347	<0.000300	<0.000300	0.0146	<0.00300	0.365 J	0.000658 J	0.0132	<0.0000800	<0.00200	<0.00200	<0.000500	2.39	4.00	6.39
	09/10/20	NA	<0.00200	0.330	<0.000300	NA	0.0158	<0.00300	0.575	0.000706 J	0.0121	NA	<0.00200	<0.00200	<0.000500	3.35	4.69	8.04
	06/17/21	<0.0008	<0.002	0.3	<0.0003	<0.0003	0.00633	<0.00300	0.471	<0.0003	0.0149	<0.00008	0.00235 J	<0.002	<0.0005	2.23	2.29	4.52
	10/11/21	<0.000800	<0.00200	0.231	<0.000300	<0.000300	0.0158	<0.00300	0.453	0.000332	0.0126	<0.0000800	0.00276	<0.00200	<0.000500	1.11	3.33	4.45
	05/11/22	<0.000800	<0.00200	0.234	<0.000300	<0.000300	0.0106	<0.00300	0.491	<0.000300	0.0119	<0.0000800	0.00285 J	<0.00200	<0.000500	1.35	1.6	2.95
	09/27/22	<0.000800	<0.00200	0.258	<0.000300	<0.000300	0.01	<0.00300	0.433	<0.000300	0.0131	<0.0000800	0.00260 J	<0.00200	<0.000500	1.73	2.49	4.22
	05/26/23	<0.000800	<0.00200	0.186	<0.000300	<0.000300	0.0152	<0.00300	0.634	0.000419 J	0.00739 J	<0.0000800	<0.00200	<0.00200	<0.000500	2.32	1.42	3.74
	08/21/23	<0.000800	<0.00200	0.376	<0.000300	<0.000300	0.0194	<0.00300	0.371 J	0.000572 J	0.011	<0.0000800	0.00332 J	<0.00200	<0.000500	3.92	4.48	8.4
	05/21/24	<0.000800	<0.00200	0.0976	<0.000300	<0.000300	0.00374 J	0.00440 J	0.158 J	<0.000300	<0.00500	<0.0000800	<0.00200	<0.00200	<0.000500	1.51	3.27	4.79

TABLE 1
APPENDIX IV ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	F (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Tl (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Combined^ (pCi/L)
	GWPS:	0.006	0.0146	2	0.0040	0.005	0.1	0.016	4	0.015	0.149	0.002	0.1	0.05	0.002	--	--	11.2
Downgradient Wells																		
FGD-1	11/03/15	<0.0008	<0.002	0.0311	<0.0003	<0.0003	<0.002	<0.003	0.363 J	<0.0003	0.034	<0.00008	<0.002	<0.002	<0.0005	0.718	<1.40	2.12
	12/17/15	<0.0008	<0.002	0.0263	<0.0003	<0.0003	<0.002	<0.003	0.384 J	<0.0003	0.0306	<0.00008	<0.002	<0.002	<0.0005	0.919	<1.43	2.35
	02/09/16	<0.0008	<0.002	0.0315	<0.0003	<0.0003	0.00437 J	0.0033 J	0.383 J	0.000379 J	0.0314	<0.00008	<0.002	<0.002	<0.0005	<0.318	1.42	1.74
	04/14/16	<0.0008	<0.002	0.0296	<0.0003	<0.0003	<0.002	<0.003	0.229 J	<0.0003	0.0338	<0.00008	<0.002	<0.002	<0.0005	<0.439	<1.28	<1.719
	06/15/16	<0.0008	<0.002	0.0276	<0.0003	<0.0003	<0.002	<0.003	0.302 J	<0.0003	0.0321	<0.00008	<0.002	<0.002	<0.0005	<0.258	1.66	1.92
	08/24/16	<0.0008	<0.002	0.0294	<0.0003	<0.0003	<0.002	<0.003	0.225 J	<0.0003	0.033	<0.00008	<0.002	<0.002	<0.0005	0.188	2.24	2.43
	10/05/16	<0.0008	<0.002	0.0319	<0.0003	<0.0003	<0.002	0.00447 J	0.483	<0.0003	0.0331	<0.00008	<0.002	<0.002	<0.0005	0.430	0.507	0.94
	12/22/16	<0.0008	<0.002	0.0418	<0.0003	<0.0003	<0.002	<0.003	0.326 J	<0.0003	0.0385	<0.00008	<0.002	<0.002	<0.0005	<0.273	<0.645	<0.918
	06/05/18	<0.0008	<0.002	0.0422	<0.0003	<0.0003	<0.002	<0.003	0.206 J	<0.0003	0.0426	<0.00008	<0.002	<0.002	<0.0005	0.194	<0.768	0.962
	09/06/18	NA	<0.002	0.0417	<0.0003	<0.0003	<0.002	0.0033 J	0.228 J	<0.0003	0.0436	NA	<0.002	<0.002	0.0005	0.209	<0.53	0.739
	05/16/19	<0.0008	<0.002	0.0485	<0.0003	<0.0003	<0.002	<0.003	0.362 J	<0.0003	0.0442	<0.00008	<0.002	<0.002	<0.0005	0.33	<0.593	0.923
	08/19/19	<0.0008	<0.002	0.0538	<0.0003	<0.0003	<0.002	<0.003	0.486	<0.0003	0.0441	<0.00008	<0.002	<0.002	<0.0005	0.489	1.09	1.57
	05/11/20	<0.000800	<0.00200	0.131	<0.000300	<0.000300	<0.00200	0.0495	0.231 J	<0.000300	0.0548	<0.0000800	<0.00200	<0.00200	<0.000500	1.08	0.808	1.89
	09/15/20	NA	<0.00200	0.162	<0.000300	NA	<0.00200	<0.00300	0.215 J	0.000342 J	0.0233	NA	<0.00200	<0.00200	<0.000500	0.664	1.66	2.32
	06/17/21	<0.0008	<0.002	0.174	<0.0003	<0.0003	<0.002	0.00441 J	0.356 J	<0.0003	0.0225	<0.00008	<0.002	<0.002	<0.0005	0.712	1.64	2.36
	6/17/21 DUP	<0.0008	<0.002	0.168	<0.0003	<0.0003	<0.002	0.00423 J	0.352 J	<0.0003	0.0221	<0.00008	<0.002	<0.002	<0.0005	0.609	1.90	2.51
	10/12/21	<0.000800	<0.00200	0.132	<0.000300	<0.000300	<0.00200	<0.00300	0.295 J	<0.000300	0.0182	<0.0000800	<0.00200	<0.00200	<0.000500	0.362	1.85	2.21
	10/12/21 DUP	<0.000800	<0.00200	0.0814	<0.000300	0.492	<0.00200	<0.003	<0.100	0.0003	0.0263	0.00008	<0.002	0.0194	<0.0005	0.324	1.5	1.82
	05/11/22	<0.000800	<0.00200	0.101	<0.000300	<0.000300	<0.00200	<0.00300	0.348 J	<0.000300	0.015	<0.0000800	<0.00200	<0.00200	<0.000500	0.298	0.723	1.02
	05/11/22 DUP	<0.000800	<0.00200	0.0969	<0.000300	<0.000300	<0.00200	<0.00300	0.319 J	<0.000300	0.013	<0.0000800	<0.00200	<0.00200	<0.000500	0.243	0.524	0.77
	09/27/22	<0.000800	<0.00200	0.108	<0.000300	<0.000300	<0.00200	0.00696	0.217 J	<0.000300	0.0373	<0.0000800	<0.00200	<0.00200	<0.000500	0.391	1.51	1.90
	9/27/22 DUP	<0.000800	<0.00200	0.103	<0.000300	<0.000300	<0.00200	0.00679	0.234 J	<0.000300	0.0361	<0.0000800	<0.00200	<0.00200	<0.000500	0.278	0.947	1.23
	05/26/23	<0.000800	<0.00200	0.0687	<0.000300	<0.000300	<0.00200	0.00371 J	0.405	<0.000300	0.0245	<0.0000800	<0.00200	<0.00200	<0.000500	0.336	0.241 J	0.58
	5/26/23 DUP	<0.000800	<0.00200	0.0587	<0.000300	<0.000300	<0.00200	<0.00300	0.406	<0.000300	0.0238	<0.0000800	<0.00200	<0.00200	<0.000500	0.207 J	0.975	1.18
	08/22/23	<0.000800	<0.00200	0.0697	<0.000300	<0.000300	<0.00200	0.0053	0.264 J	<0.000300	0.0357	<0.0000800	<0.00200	<0.00200	<0.000500	2.5	0.547	3.04
	8/22/23 DUP	<0.000800	<0.00200	0.0685	<0.000300	<0.000300	<0.00200	0.00516	0.258 J	<0.000300	0.0346	<0.0000800	<0.00200	<0.00200	<0.000500	2.5	1.03	3.53
	05/20/24	<0.000800	<0.00200	0.0677	<0.000300	0.000324 J	<0.00200	0.00944	0.390 J	0.000353 J	0.0302	<0.0000800	<0.00200	<0.00200	<0.000500	0.282	2.27	2.55
	5/20/24 DUP	<0.000800	<0.00200	0.0583	<0.000300	0.000317 J	<0.00200	0.00637	0.402	<0.000300	0.0283	<0.0000800	<0.00200	<0.00200	<0.000500	0.385	0.528 J	0.913
FGD-2	11/03/15	<0.0008	<0.002	0.146	<0.0003	<0.0003	0.00244 J	<0.003	0.224 J	<0.0003	0.0224	<0.00008	<0.002	0.0203	<0.0005	<0.249	1.97	2.22
	12/17/15	<0.0008	<0.002	0.103	<0.0003	<0.0003	0.00386 J	<0.003	0.347 J	0.00145	0.0183	<0.00008	<0.002	0.0127	<0.0005	1.030	<1.24	2.27
	02/09/16	<0.0008	<0.002	0.133	<0.0003	<0.0003	0.00426 J	<0.003	0.315 J	<0.0003	0.0221	<0.00008	<0.002	0.0181	<0.0005	0.669	1.81	2.48
	04/14/16	<0.0008	<0.002	0.129	<0.0003	<0.0003	<0.002	<0.003	0.192 J	<0.0003	0.0196	<0.00008	<0.002	0.0166	<0.0005	0.198	<2.03	2.23
	06/14/16	<0.0008	<0.002	0.091	<0.0003	<0.0003	<0.002	<0.003	0.122 J	<0.0003	0.0243	<0.00008	<0.002	0.0189	<0.0005	0.275	1.66	1.94
	08/24/16	<0.0008	<0.002	0.144	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.019	<0.00008	<0.002	0.0185	<0.0005	2.47	0.769	3.24
	10/05/16	<0.0008	<0.002	0.129	<0.0003	<0.0003	0.00549	<0.003	0.243 J	0.000693 J	0.0199	<0.00008	<0.002	0.0176	<0.0005	0.716	1.70	2.42
	12/22/16	<0.0008	<0.002	0.158	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0217	<0.00008	<0.002	0.022	<0.0005	0.345	1.79	2.14
	06/05/18	<0.0008	<0.002	0.108	<0.0003	<0.0003	<0.002	<0.003	0.185 J	<0.0003	0.0226	<0.00008	<0.002	0.0185	<0.0005	0.505	1.12	1.63
	09/06/18	NA	<0.002	0.125	<0.0003	<0.0003	<0.002	<0.003	0.32 J	<0.0003	0.0253	NA	<0.002	0.0204	<0.0005	0.641	0.822	1.46
	05/16/19	<0.0008	<0.002	0.0993	<0.0003	<0.0003	0.003 J	<0.003	0.383 J	<0.0003	0.0228	0.00008	<0.002	0.0214	<0.0005	0.648	0.588	1.24
	08/19/19	<0.0008	<0.002	0.181	<0.0003	<0.0003	<0.002	<0.003	0.413	<0.0003	0.0257	<0.00008	<0.002	0.0249	<0.0005	0.456	2.8	3.26
	05/11/20	<0.000800	<0.00200	0.108	<0.000300	<0.000300	0.00234 J	<0.00300	<0.100	<0.000300	0.028	<0.0000800	<0.00200	0.0208	<0.000500	0.677	2.08	2.76
	09/10/20	NA	<0.00200	0.104	<0.000300	NA	0.00239 J	<0.00300	<0.100	<0.000300	0.0250	NA	<0.00200	0.0217	<0.000500	0.744	0.29	1.03
	06/17/21	<0.0008	<0.002	0.108	<0.0003	<0.0003	<0.002	<0.00300	<0.100	<0.0003	0.023	<0.00008	<0.002	0.0233	<0.0005	0.440	0.774	1.21
	10/12/21	<0.000800	<0.00200	0.0823	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0259	<0.0000800	<0.00200	0.0185	<0.000500	593	0.922	1.52
	05/10/22	<0.000800	<0.00200	0.0651	<0.000300	<0.000300	0.00248 J	<0.00300	<0.100	<0.000300	0.0244	<0.0000800	<0.00200	0.0258	<0.000500	0.572	1.38	1.96
	09/27/22	<0.000800	<0.00200	0.0631	<0.000300	<0.000300	0.00354 J	<0.00300	<0.100	<0.000300	0.0297	<0.0000800	<0.00200	0.0235	<0.000500	0.423	1.78	2.20
	05/26/23	<0.000800	<0.00200	0.0768	<0.000300	<0.000300	0.00322 J	<0.00300	<0.100	<0.000300	0.0283	<0.0000800	<0.00200	0.0253	<0.000500	0.62	1.3	1.92
	08/21/23	<0.000800	<0.00200	0.0654	<0.000300	<0.000300	0.00501	<0.00300	<0.100	<0.000300	0.0256	<0.0000800	<0.00200	0.0234	<0.000500	0.328 J	1.28	1.61
	05/20/24	<0.000800	<0.00200	0.0763	<0.000300	<0.000300	0.00548	<0.00300	0.153 J	<0.000300	0.0251	<0.0000800	0.0051	0.0286	<0.000500	10.3	10.3 J	0.328
	6/18/24*	<0.000800	<0.00200	0.0833	<0.000300	<0.000300	0.00501	<0.00300	<0.100	<0.000300	0.0236	<0.0000800	0.00387	0.0236	<0.000500	0.632	0.475	1.11

TABLE 1
APPENDIX IV ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	F (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Tl (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Combined^ (pCi/L)
	GWPS:	0.006	0.0146	2	0.0040	0.005	0.1	0.016	4	0.015	0.149	0.002	0.1	0.05	0.002	--	--	11.2
FGD-3	11/03/15	<0.0008	0.00226 J	0.0417	<0.0003	0.00492	<0.002	0.0436	0.505	<0.0003	0.176	<0.00008	<0.002	0.0881	0.0017	0.930	3.18	4.11
	12/17/15	<0.0008	0.00215 J	0.0371	0.000475 J	0.00372	<0.002	0.0399	<0.1	<0.0003	0.14	<0.00008	<0.002	0.0798	0.0016	1.70	2.66	4.36
	02/09/16	<0.0008	0.00206 J	0.0407	<0.0003	0.00343	<0.002	0.0417	0.74	0.000438 J	0.13	<0.00008	<0.002	0.0907	0.0015 J	1.04	3.37	4.41
	04/14/16	<0.0008	0.00218 J	0.0371	<0.0003	0.00212	<0.002	0.0326	0.69	<0.0003	0.119	<0.00008	<0.002	0.064	0.00137 J	<0.276	<1.35	<1.626
	06/14/16	<0.0008	0.00205 J	0.0392	<0.0003	0.00156	<0.002	0.0261	0.173 J	<0.0003	0.107	<0.00008	<0.002	0.0447	0.00126 J	0.754	1.56	2.31
	08/24/16	<0.0008	0.00221 J	0.0387	<0.0003	0.00146	<0.002	0.0232	0.463	<0.0003	0.0974	<0.00008	<0.002	0.0272	0.00123 J	0.416	2.60	3.02
	10/05/16	<0.0008	0.00225 J	0.039	<0.0003	0.00152	<0.002	0.0226	0.723	<0.0003	0.113	<0.00008	<0.002	0.0276	0.00114 J	0.455	2.44	2.90
	12/22/16	<0.0008	0.00226 J	0.0437	<0.0003	0.00173	<0.002	0.0266	1.32	<0.0003	0.11	<0.00008	<0.002	0.0245	0.00124 J	<0.352	2.46	2.81
	06/05/18	<0.0008	0.00236 J	0.0391	<0.0003	0.00152	<0.002	0.0207	1.06	<0.0003	0.0975	<0.00008	0.00212 J	0.0192	0.000985 J	0.528	2.19	2.72
	09/05/18	NA	0.00208 J	0.0379	<0.0003	0.00146	<0.002	0.0192	1.03	<0.0003	0.0955	NA	0.0021 J	0.0213	0.000925 J	<0.323	0.704	1.03
	05/16/19	<0.0008	0.0023 J	0.051	<0.0003	<0.0003	<0.002	0.0052	0.776	<0.0003	0.057	<0.00008	0.0031 J	0.0423	0.0006 J	<0.403	<0.638	<1.041
	08/19/19	<0.0008	0.00248 J	0.0365	<0.0003	<0.0003	<0.002	0.00364 J	0.874	<0.0003	0.0546	<0.00008	0.00231 J	0.0245	0.000588 J	0.523	0.858	1.38
	05/06/20	<0.000800	0.00209 J	0.0353	<0.000300	<0.000300	0.0117	0.00332 J	0.8	<0.000300	0.0498	<0.0000800	0.00284 J	0.00993	0.000556 J	0.394	0.463	0.857
	09/15/20	NA	0.00225 J	0.0326	<0.000300	NA	<0.00200	<0.00300	0.772	<0.000300	0.0416	NA	0.00245 J	0.00646	0.000534 J	0.257	0.484	0.711
	06/16/21	<0.0008	0.00217	0.0343 J	<0.0003	<0.0003	<0.002	0.00624	1.2	0.000491 J	0.0426	0.000094 J	0.00336 J	0.00752	0.000528 J	0.246	0.808	1.05
	10/11/21	<0.000800	<0.00200	0.0322	<0.000300	<0.000300	<0.00200	<0.00300	1.08	0.000494 J	0.0296	<0.0000800	0.00370 J	0.00748	<0.000500	0.223 J	1.02	1.25
	05/10/22	<0.000800	0.00219 J	0.0358	<0.000300	<0.000300	<0.00200	<0.00300	1.05	0.00152	0.0349	<0.0000800	0.00351 J	0.00418 J	<0.000500	0.411	1.79	2.2
	09/27/22	<0.000800	0.00236 J	0.0375	<0.000300	<0.000300	<0.00200	<0.00300	0.959	0.00166	0.0403	<0.0000800	0.00323 J	0.00344 J	<0.000500	0.28	1.01	1.28
	03/14/23	<0.000800	<0.00200	0.0381	<0.000300	<0.000300	<0.00200	<0.00300	1.11	0.00152	0.0307	<0.0000800	0.00358	0.00516	<0.000500	0.4	0.617 J	1.02
	05/25/23	<0.000800	0.00242 J	0.0315	<0.000300	0.000311 J	<0.00200	0.00564	0.981	0.000403 J	0.0486	0.000170 J	0.00279 J	0.00308 J	0.000569 J	0.841	0.955	1.8
	08/21/23	<0.000800	0.00225 J	0.0363	<0.000300	<0.000300	<0.00200	<0.00300	1.06	0.0014	0.0342	0.0000853 J	0.00340 J	0.00328 J	0.000507 J	0.799	<0.432	0.799
	05/20/24	<0.000800	0.00450 J	0.0748	0.000319 J	0.000612 J	0.00638	0.00773	0.936	0.00717	0.0443	0.000136 J	0.00369 J	0.0124	0.000627 J	0.567	5.67	6.24
	6/18/24*	<0.000800	0.00215	0.0321	<0.000300	<0.000300	<0.00200	0.00406	0.97	0.000367	0.0342	<0.0000800	0.00335	0.0052	<0.000500	0.765	0.343 J	1.11
FGD-4	11/03/15	<0.0008	<0.002	0.126	<0.0003	<0.0003	<0.002	<0.003	0.294 J	<0.0003	0.0433	<0.00008	<0.002	<0.002	<0.0005	1.01	<1.39	2.40
	12/17/15	<0.0008	<0.002	0.105	<0.0003	<0.0003	<0.002	<0.003	0.295 J	<0.0003	0.0436	0.000229	0.00211 J	0.00214 J	<0.0005	<0.361	<1.73	<2.091
	02/09/16	<0.0008	<0.002	0.113	<0.0003	<0.0003	<0.002	<0.003	0.32 J	<0.0003	0.0419	0.000288	<0.002	<0.002	<0.0005	<0.332	<1.11	<1.442
	04/14/16	<0.0008	<0.002	0.12	<0.0003	<0.0003	0.00208 J	<0.003	0.323 J	0.0271	0.0357	0.000232	<0.002	<0.002	<0.0005	0.560	<1.21	1.77
	06/14/16	<0.0008	<0.002	0.128	<0.0003	0.000561 J	<0.002	<0.003	<0.1	<0.0003	0.0477	<0.00008	<0.002	<0.002	<0.0005	0.437	<0.975	1.41
	08/24/16	<0.0008	<0.002	0.111	<0.0003	<0.0003	<0.002	<0.003	0.148 J	0.000578 J	0.0383	<0.00008	<0.002	<0.002	<0.0005	<0.199	0.625	0.82
	10/05/16	<0.0008	<0.002	0.106	<0.0003	<0.0003	<0.002	<0.003	0.376 J	0.000489 J	0.0353	<0.00008	<0.002	<0.002	<0.0005	0.308	1.30	1.61
	12/22/16	<0.0008	<0.002	0.114	<0.0003	<0.0003	0.0023 J	<0.003	0.251 J	<0.0003	0.0273	<0.00008	<0.002	<0.002	<0.0005	0.227	<0.667	0.89
	06/04/18	<0.0008	<0.002	0.119	<0.0003	<0.0003	<0.002	<0.003	0.297 J	<0.0003	0.0265	<0.00008	<0.002	<0.002	<0.0005	0.261	<0.923	1.184
	09/05/18	NA	<0.002	0.108	<0.0003	<0.0003	<0.002	<0.003	0.353 J	<0.0003	0.0199	NA	<0.002	<0.002	<0.0005	<0.39	0.673	1.063
	05/16/19	<0.0008	<0.002	0.117	<0.0003	<0.0003	<0.002	<0.003	0.327 J	<0.0003	0.0325	<0.00008	<0.002	<0.002	<0.0005	0.627	0.745	1.372
	08/19/19	<0.0008	<0.002	0.1	<0.0003	<0.0003	<0.002	<0.003	0.67	<0.0003	0.019	<0.00008	<0.002	<0.002	<0.0005	0.39	1.58	1.97
	05/11/20	<0.000800	<0.00200	0.104	<0.000300	<0.000300	<0.00200	<0.00300	0.3 J	<0.000300	0.0166	<0.0000800	<0.00200	<0.00200	<0.000500	0.15	1.2	1.35
	09/15/20	NA	<0.00200	0.0899	<0.000300	NA	<0.00200	<0.00300	<0.100	<0.000300	0.0140	NA	<0.00200	<0.00200	<0.000500	0.498	<1.27	0.498
	06/16/21	<0.0008	<0.002	0.103	<0.0003	<0.0003	<0.002	<0.00300	0.517	<0.0003	0.0137	<0.00008	<0.002	<0.002	<0.0005	0.283	<0.749	<0.944
	10/11/21	<0.000800	<0.00200	0.0796	<0.000300	<0.000300	<0.00200	<0.00300	0.398	<0.000300	0.00984 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.169 J	1.27	1.44
	05/10/22	<0.000800	<0.00200	0.0773	<0.000300	<0.000300	<0.00200	<0.00300	0.433	<0.000300	0.00958 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.401	2.16	2.56
	09/27/22	<0.000800	<0.00200	0.0657	<0.000300	<0.000300	<0.00200	<0.00300	0.383 J	<0.000300	0.00981 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.426	1.08	1.50
	03/14/23	<0.000800	<0.00200	0.0921	<0.000300	<0.000300	<0.00200	<0.00300	0.386	<0.000300	0.0141	<0.0000800	<0.00200	<0.00200	<0.000500	0.595	1.42	2.01
	05/25/23	<0.000800	<0.00200	0.0981	<0.000300	<0.000300	<0.00200	<0.00300	0.543	<0.000300	0.0123	<0.0000800	<0.00200	<0.00200	<0.000500	0.233 J	1.38	1.61
	08/21/23	<0.000800	<0.00200	0.0799	<0.000300	<0.000300	<0.00200	<0.00300	0.43	<0.000300	0.00858 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.886	0.607	1.49
	05/20/24	<0.000800	<0.00200	0.0989	<0.000300	<0.000300	<0.00200	<0.00300	0.48	<0.000300	0.0123	<0.0000800	<0.00200	<0.00200	<0.000500	0.339	1.29	1.63
	6/18/24*	<0.000800	<0.00200	0.0898	<0.000300	<0.000300	<0.00200	<0.00300	0.348	<0.000300	0.00905	<0.0000800	<0.00200	<0.00200	<0.000500	1.71	1.32	3.04

TABLE 1
APPENDIX IV ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	F (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Tl (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Combined^ (pCi/L)
	GWPS:	0.006	0.0146	2	0.0040	0.005	0.1	0.016	4	0.015	0.149	0.002	0.1	0.05	0.002	--	--	11.2
FGD-5	11/04/15	<0.0008	<0.002	0.13	<0.0003	0.000557 J	0.0121	<0.003	0.334 J	<0.0003	0.17	<0.00008	0.0445	<0.002	<0.0005	0.449	1.52	1.97
	12/17/15	<0.0008	<0.002	0.237	<0.0003	0.000593 J	0.0391	0.0164	0.333 J	0.000369 J	0.156	<0.00008	0.0203	<0.002	<0.0005	1.23	3.63	4.86
	02/09/16	<0.0008	<0.002	0.261	<0.0003	<0.0003	<0.002	0.00441 J	0.495	<0.0003	0.158	<0.00008	<0.002	<0.002	<0.0005	1.99	1.50	3.49
	04/14/16	<0.0008	<0.002	0.224	<0.0003	0.000392 J	0.00477 J	<0.003	0.491	<0.0003	0.164	<0.00008	0.0183	<0.002	<0.0005	0.951	<1.24	2.19
	06/15/16	<0.0008	<0.002	0.174	<0.0003	<0.0003	0.00599	<0.003	0.284 J	<0.0003	0.162	<0.00008	0.0144	<0.002	<0.0005	0.429	1.25	1.68
	08/24/16	<0.0008	<0.002	0.173	<0.0003	<0.0003	0.0189	<0.003	0.168 J	0.00045 J	0.145	<0.00008	0.00814	<0.002	<0.0005	0.398	<0.643	1.04
	10/05/16	<0.0008	<0.002	0.229	<0.0003	<0.0003	0.00304 J	<0.003	0.38 J	<0.0003	0.153	<0.00008	0.00355 J	<0.002	<0.0005	0.877	1.16	2.04
	12/22/16	<0.0008	<0.002	0.261	<0.0003	<0.0003	<0.002	0.00471 J	0.291 J	<0.0003	0.152	<0.00008	<0.002	<0.002	<0.0005	0.579	<0.76	1.34
	06/05/18	<0.0008	<0.002	0.136	<0.0003	<0.0003	0.00935	<0.003	0.511	<0.0003	0.154	<0.00008	<0.002	<0.002	<0.0005	0.705	<0.765	1.47
	09/06/18	NA	<0.002	0.215	<0.0003	<0.0003	<0.002	<0.003	0.548	<0.0003	0.155	NA	<0.002	<0.002	<0.0005	0.535	1.31	1.845
	05/16/19	<0.0008	<0.002	0.0926	<0.0003	<0.0003	0.024	<0.003	0.579	<0.0003	0.145	<0.00008	0.003 J	<0.002	<0.0005	0.342	<0.506	0.848
	08/19/19	<0.0008	<0.002	0.106	<0.0003	<0.0003	0.0103	<0.003	0.863	<0.0003	0.152	<0.00008	<0.002	<0.002	<0.0005	0.551	0.659	1.21
	05/11/20	<0.000800	<0.00200	0.0959	<0.000300	<0.000300	0.0374	<0.00300	0.413	<0.000300	0.156	<0.0000800	0.00561	<0.00200	<0.000500	0.0983	5.18	5.28
	09/10/20	NA	<0.00200	0.0929	<0.000300	NA	0.0307	<0.00300	0.617	<0.000300	0.150	NA	0.00362 J	<0.00200	<0.000500	0.132	<1.11	0.132
	06/17/21	<0.0008	<0.002	0.111	<0.0003	<0.0003	0.0376	<0.00300	0.593	<0.0003	0.147	<0.00008	0.00504	<0.002	<0.0005	0.173 J	0.546	0.719 J
	10/11/21	<0.000800	<0.00200	0.0995	<0.000300	<0.000300	0.0549	<0.00300	0.459	<0.000300	0.139	<0.0000800	0.00669	<0.00200	<0.000500	<0.243	<0.243	<0.889
	05/10/22	<0.000800	<0.00200	0.123	<0.000300	<0.000300	0.0396	<0.00300	0.474	<0.000300	0.165	<0.0000800	0.00427 J	<0.00200	<0.000500	<0.217	0.241 J	0.273 J
	09/27/22	<0.000800	<0.00200	0.15	<0.000300	<0.000300	0.0305	<0.00300	0.446	<0.000300	0.182	<0.0000800	0.00217 J	<0.00200	<0.000500	0.159 J	<0.35	<0.438
	05/26/23	<0.000800	<0.00200	0.108	<0.000300	<0.000300	0.0738	<0.00300	0.495	<0.000300	0.173	<0.0000800	0.00985	<0.00200	<0.000500	0.571	0.773	1.34
	08/21/23	<0.000800	<0.00200	0.125	<0.000300	<0.000300	0.0808	<0.00300	0.501	<0.000300	0.159	<0.0000800	0.00872	<0.00200	<0.000500	0.147 J	<0.371	<0.147
	05/20/24	<0.000800	<0.00200	0.129	<0.000300	<0.000300	0.0669	<0.00300	0.486	<0.000300	0.181	<0.0000800	0.00841	<0.00200	<0.000500	0.215 J	2.7	2.92
FGD-6	11/03/15	<0.0008	<0.002	0.124	<0.0003	<0.0003	0.00253 J	<0.003	0.227 J	<0.0003	0.0112	<0.00008	<0.002	<0.002	<0.0005	0.470	<1.70	2.17
	12/17/15	<0.0008	<0.002	0.135	<0.0003	<0.0003	<0.002	<0.003	0.469	<0.0003	0.00964 J	<0.00008	<0.002	<0.002	<0.0005	1.03	<2.13	3.16
	02/09/16	<0.0008	<0.002	0.132	<0.0003	<0.0003	<0.002	<0.003	0.354 J	<0.0003	0.0105	<0.00008	<0.002	<0.002	<0.0005	0.801	<1.71	2.51
	04/14/16	<0.0008	<0.002	0.122	<0.0003	<0.0003	0.0568	<0.003	0.442	<0.0003	0.011	<0.00008	<0.002	<0.002	<0.0005	0.484	2.08	2.56
	06/14/16	<0.0008	<0.002	0.16	0.000309 J	0.000404 J	<0.002	0.00657	<0.1	0.00132	0.0092 J	<0.00008	<0.002	<0.002	<0.0005	1.31	2.16	3.47
	08/24/16	<0.0008	0.00725	0.127	<0.0003	<0.0003	0.00334 J	0.00399 J	0.147 J	0.000656 J	0.00885 J	<0.00008	0.00244 J	<0.002	<0.0005	0.465	0.896	1.36
	10/05/16	<0.0008	0.00536	0.117	<0.0003	<0.0003	0.00427 J	0.00414 J	0.364 J	<0.0003	0.00985 J	<0.00008	<0.002	<0.002	<0.0005	0.489	1.69	2.18
	12/22/16	<0.0008	0.00458 J	0.129	<0.0003	<0.0003	<0.002	0.00352 J	0.204 J	<0.0003	0.0102	<0.00008	<0.002	<0.002	<0.0005	0.349	0.917	1.27
	06/04/18	<0.0008	0.0021 J	0.0854	<0.0003	<0.0003	<0.002	<0.003	0.361 J	<0.0003	0.0098 J	<0.00008	<0.002	<0.002	<0.0005	<0.277	<0.964	<1.241
	09/05/18	NA	<0.002	0.0824	<0.0003	<0.0003	<0.002	<0.003	0.405	<0.0003	0.0094 J	NA	<0.002	<0.002	<0.0005	<0.336	<0.677	<1.013
	05/16/19	<0.0008	0.0294	0.107	<0.0003	<0.0003	<0.002	0.0132	0.669	<0.0003	0.0068 J	<0.00008	0.0077	<0.002	<0.0005	1.43	1.67	3.1
	08/19/19	<0.0008	0.0146	0.0903	<0.0003	<0.0003	<0.002	0.00493 J	0.741	<0.0003	0.0082 J	<0.00008	0.00332 J	<0.002	<0.0005	0.385	2.55	2.93
	05/11/20	<0.000800	0.00286 J	0.0814	<0.000300	<0.000300	<0.00200	<0.00300	0.292 J	<0.000300	0.00877 J	<0.0000800	0.00205 J	<0.00200	<0.000500	0.513	0.845	1.36
	09/15/20	NA	0.00651	0.0695	<0.000300	NA	<0.00200	0.00615	0.354 J	<0.000300	0.00669 J	NA	<0.00200	<0.00200	<0.000500	0.485	1.08	1.57
	06/16/21	<0.0008	0.00232 J	0.0769	<0.0003	<0.0003	<0.002	<0.00300	0.452	<0.0003	0.00824 J	<0.00008	<0.002	<0.002	<0.0005	0.322	1.54	1.86
	10/11/21	<0.000800	0.00696	0.0507	<0.000300	<0.000300	<0.00200	<0.00300	0.616	<0.000300	0.00641 J	<0.0000800	0.00222 J	<0.00200	<0.000500	<0.356	1.39	1.44
	05/10/22	<0.000800	<0.00200	0.0632	<0.000300	<0.000300	<0.00200	<0.00300	0.391	<0.000300	<0.00500	<0.0000800	<0.00200	<0.00200	<0.000500	0.306	1.05	1.35
	09/27/22	<0.000800	0.00380 J	0.0596	<0.000300	<0.000300	<0.00200	<0.00300	0.484	<0.000300	0.00736 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.199 J	0.887	1.09
	03/14/23	<0.000800	0.00429 J	0.0803	<0.000300	<0.000300	<0.00200	<0.00300	0.324	<0.000300	0.00866	<0.0000800	<0.00200	<0.00200	<0.000500	0.41	1.72	2.12
	05/25/23	<0.000800	0.00285 J	0.079	<0.000300	<0.000300	<0.00200	<0.00300	0.344 J	<0.000300	0.00859 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.128 J	1.52	1.64
	08/21/23	<0.000800	0.00807	0.0727	<0.000300	<0.000300	<0.00200	<0.00300	0.468	<0.000300	0.00600 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.638	1.34	1.98
	05/20/24	<0.000800	0.00994	0.0523	0.000380 J	<0.000300	<0.00200	<0.00300	0.707	0.000451 J	0.00676 J	<0.0000800	0.00893	<0.00200	<0.000500	0.516	1.91	2.42
	6/18/24*	0.000825	0.0271	0.0182	<0.000300	<0.000300	<0.00200	<0.00300	0.709	0.000642	<0.00500	0.000121	0.0259	0.00528	<0.000500	0.313	0.966	1.28

TABLE 1
APPENDIX IV ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	F (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Tl (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Combined^ (pCi/L)
	GWPS:	0.006	0.0146	2	0.0040	0.005	0.1	0.016	4	0.015	0.149	0.002	0.1	0.05	0.002	--	--	11.2
FGD-12	11/04/15	<0.0008	<0.002	0.0884	<0.0003	<0.0003	0.0124	<0.003	<0.1	0.000678 J	0.0234	<0.00008	0.00221 J	<0.002	<0.0005	1.07	<1.55	2.62
	12/17/15	<0.0008	<0.002	0.0781	<0.0003	<0.0003	<0.002	<0.003	0.159 J	0.000775 J	0.022	<0.00008	<0.002	<0.002	<0.0005	1.32	<2.57	3.89
	2/9/2016	<0.0008	<0.002	0.0664	<0.0003	<0.0003	<0.002	<0.003	0.157 J	0.000339 J	0.0211	<0.00008	<0.002	<0.002	<0.0005	0.771	<1.53	2.30
	04/14/16	<0.0008	<0.002	0.104	<0.0003	<0.0003	0.00425 J	<0.003	0.109 J	0.00371	0.0255	<0.00008	<0.002	<0.002	<0.0005	0.560	1.46	2.02
	06/15/16	<0.0008	<0.002	0.107	0.00039 J	<0.0003	0.00269 J	0.00323 J	0.101 J	0.00513	0.0192	0.000134 J	<0.002	<0.002	<0.0005	2.01	2.06	4.07
	08/25/16	<0.0008	0.00451 J	0.262	0.000629 J	<0.0003	0.0135	0.00412 J	<0.1	0.00842	0.0204	<0.00008	<0.002	<0.002	<0.0005	1.59	1.84	3.43
	10/04/16	<0.0008	0.00402 J	0.122	0.00062 J	<0.0003	0.0133	0.00395 J	0.129 J	0.0084	0.0259	<0.00008	<0.002	0.00292 J	<0.0005	1.41	<0.76	2.17
	12/23/16	<0.0008	0.00938	0.557	<0.0003	<0.0003	0.00435 J	0.00609	0.112 J	0.00216	0.0755	<0.00008	<0.002	0.00786	<0.0005	1.89	3.54	5.43
	06/05/18	<0.0008	<0.002	0.0777	0.00031	<0.0003	0.00578	<0.003	0.137 J	0.0029	0.0213	<0.00008	<0.002	<0.002	<0.0005	1.68	<0.526	2.206
	09/06/18	NA	<0.002	0.0517	<0.0003	<0.0003	0.0024 J	<0.003	<0.10	0.0005 J	0.0188	NA	<0.002	<0.002	<0.0005	<0.304	<0.5450	<0.849
	05/16/19	0.0008	<0.002	0.0474	<0.0003	<0.0003	0.0030 J	<0.003	<0.10	0.0003 J	0.0221	<0.00008	<0.002	<0.002	<0.0005	0.385	1.43	1.82
	08/19/19	<0.0008	<0.002	0.0631	<0.0003	<0.0003	0.00218 J	<0.003	0.145 J	0.00139	0.0251	<0.00008	<0.002	<0.002	<0.0005	1.12	3.52	4.64
	05/11/20	<0.000800	0.0116	0.23	0.00166	<0.000300	0.037	0.00883	<0.100	0.0249	0.0371	<0.0000800	<0.00200	0.00678	0.000651	5.96	10.7	16.6
	09/10/20	NA	0.00252 J	0.0922	0.000375 J	NA	0.00723	<0.00300	<0.100	0.00402	0.0235	NA	<0.00200	0.00254 J	<0.000500	2.59	6.72	9.31
	06/17/21	<0.0008	<0.002	0.0817	0.000504 J	<0.0003	0.00273 J	<0.00300	<0.100	0.00317	0.0239	<0.00008	<0.002	<0.002	<0.0005	0.861	4.67	5.53
	10/12/21	<0.000800	<0.00200	0.0613	<0.000300	<0.000300	0.00387 J	<0.00300	0.101 J	0.00255	0.0222	<0.0000800	<0.00200	0.00255 J	<0.000500	1.84	1.94	3.78
	05/11/22	<0.000800	<0.00200	0.0674	<0.000300	<0.000300	0.00874	<0.00300	<0.100	0.00244	0.0204	<0.0000800	<0.00200	<0.00200	<0.000500	1.31	0.221 J	1.53
	09/27/22	<0.000800	0.00245 J	0.0986	0.000349 J	<0.000300	0.0082	<0.00300	<0.100	0.00422	0.0213	<0.0000800	<0.00200	<0.00200	<0.000500	2.06	5.61	7.67
	05/26/23	<0.000800	0.00444 J	0.135	0.000644 J	<0.000300	0.016	0.00343 J	<0.100	0.00841	0.0264	<0.0000800	<0.00200	<0.00200	<0.000500	2.43	3.4	5.83
	08/21/23	<0.000800	0.00285 J	0.115	0.000417 J	<0.000300	0.00931	<0.00300	<0.100	0.00503	0.0175	<0.0000800	<0.00200	<0.00200	<0.000500	1.53	5.89	7.42
	05/21/24	<0.000800	<0.00200	0.0799	<0.000300	<0.000300	0.00738	<0.00300	<0.100	0.00250	0.0251	<0.0000800	<0.00200	<0.00200	<0.000500	1.15	9.17	10.3
FGD-A Pond	6/6/2019	0.00155 J	<0.00200	0.0781	<0.000300	0.000348 J	<0.00200	<0.00300	**17.2**	<0.000300	**0.167**	0.000615	**0.152**	**1.30**	0.00144	0.0156	0.391	0.406
	03/05/23	0.00513	0.00467	0.308	<0.000300	0.000476	0.00831	0.00366	**9.13**	0.000843	**0.277**	0.00115	**0.191**	**2.71**	0.000774	--	--	--
	6/17/24*	0.00336	0.00278	0.225	<0.000300	0.000686	0.0512	**0.0192**	**12.2**	<0.000300	**0.157**	0.000201	0.0739	**0.722**	<0.000500	0.569	0.597	1.17

Notes:
1. Abbreviations: GWPS - groundwater protection standard; mg/l - milligrams per liter; pCi/L - picocuries per liter.
2. ^ - Sum of Ra 226 and Ra 228 concentrations.
3. J - Concentration is below method quantitation limit; result is an estimate.
4. NA - not analyzed. Groundwater sample analyses for the second semi-annual sampling events were in some instances limited to Appendix IV parameters detected during the preceding first semi-annual sampling event in accordance with 40 CFR § 257.95(d)(1).
5. * - Sample collection date for all Appendix IV constituents other than fluoride. Fluoride samples were collected on July 10, 2024.
6. Pond sample results that exceed the applicable GWPS are highlighted yellow.

Table 2

Screening of Potential Groundwater Response Technologies
Oak Grove Steam Electric Station
FGD Ponds

Groundwater Response Technology	Description	Protective of Human Health and Environment	Attain Groundwater Protection Standard	Control Source of Release	Remove Contaminated Material From Environment	RCRA Compliance	Screening Comments	Retained for Further Evaluation
Monitored Natural Attenuation	Natural processes (dispersion, dilution, sorption, coprecipitation, degradation/transformation, etc.) remove CCR constituents from groundwater in-situ. Groundwater monitoring to verify MNA effectiveness.	Migration of CCR constituents in groundwater controlled and CCR concentrations in groundwater reduced.	CCR constituents removed through adsorption, precipitation or coprecipitation. CCR constituents removed from groundwater and retained in aquifer soil matrix to achieve GWPS below and downgradient of CCR Unit.	CCR constituents removed from groundwater below and downgradient of CCR Unit.	CCR constituents removed from groundwater and retained in aquifer soil matrix.	Purge water from groundwater monitoring requires management in accordance with applicable RCRA requirements.	Site is good MNA candidate for CCR constituents based on field MNA evaluation. Long-term groundwater monitoring required. Easy to implement. Groundwater modelling required to assess remediation timeframe.	Yes
Groundwater Extraction and Treatment	System of extraction wells along downgradient edge of ponds to provide hydraulic control of CCR constituent groundwater plumes. Extracted groundwater treated in an on-site treatment system and discharged to Twin Oaks Reservoir or re-injected into aquifer. Groundwater monitoring to verify system effectiveness.	Migration of CCR constituents in groundwater controlled.	GWPS attained downgradient of CCR Unit, but limited effect on concentrations beneath unit.	CCR groundwater constituents contained at edge of ponds.	CCR constituents removed from extracted groundwater by treatment system. Treatment residuals (sludge, regenerate brine, etc.) require management.	Treatment residuals (sludge, regenerate brine, etc.) require management in accordance with applicable RCRA requirements.	Regulatory authorization for treated water discharge required. Bench/pilot testing of treatment system required. Groundwater modelling required to assess remediation timeframe.	Yes
Vertical Hydraulic Barrier	Vertical, low permeability hydraulic barrier along downgradient edge of ponds to provide hydraulic control of CCR constituent groundwater plumes. Groundwater extraction and treatment required upgradient of barrier to control groundwater elevations. Groundwater monitoring to verify system effectiveness.	Migration of CCR constituents in groundwater controlled.	GWPS attained downgradient of CCR Unit, but limited effect on concentrations beneath unit.	CCR groundwater constituents contained at edge of ponds.	CCR constituents removed from extracted groundwater by treatment system. Treatment residuals (sludge, regenerate brine, etc.) require management.	Excavated soil generated from barrier installation requires testing and management as necessary. Treatment residuals (sludge, regenerate brine, etc.) require management in accordance with applicable RCRA requirements.	Bench/pilot test of barrier materials likely required. Regulatory authorization for treated water discharge required. Bench/pilot testing of treatment system required. Groundwater modelling required to assess remediation timeframe.	Yes

Table 2

Screening of Potential Groundwater Response Technologies
Oak Grove Steam Electric Station
FGD Ponds

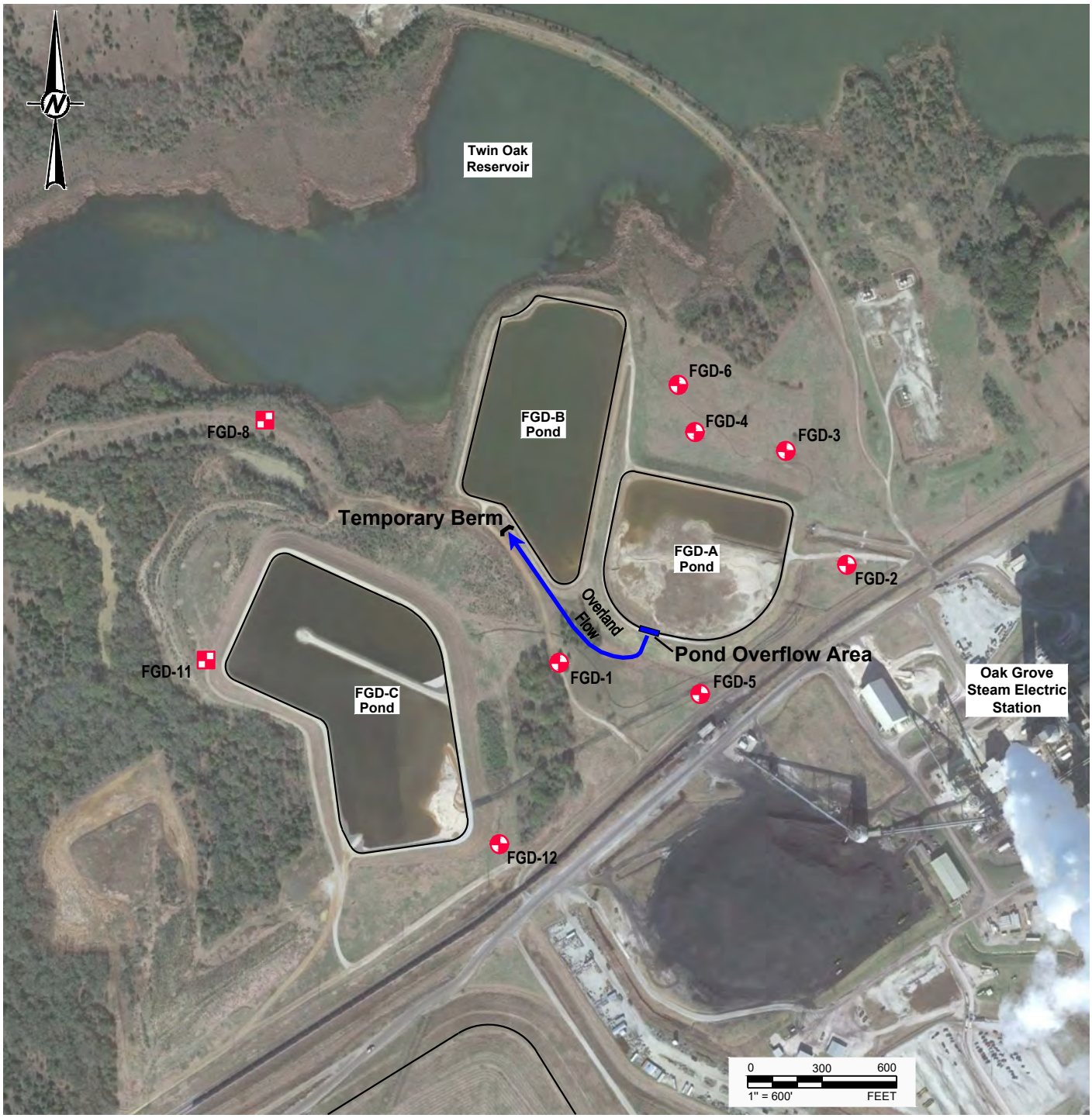
Groundwater Response Technology	Description	Protective of Human Health and Environment	Attain Groundwater Protection Standard	Control Source of Release	Remove Contaminated Material From Environment	RCRA Compliance	Screening Comments	Retained for Further Evaluation
Permeable Reactive Barrier	In-situ, passive, permeable treatment zone containing reactive media designed to intercept impacted groundwater and adjust geochemistry to immobilize CCR contaminants. CCR constituents removed from groundwater through adsorption and/or coprecipitation under reducing groundwater conditions. PRB acts as a barrier to groundwater contamination but not groundwater flow. Groundwater monitoring to verify system effectiveness.	Migration of CCR constituents in groundwater controlled.	GWPS attained downgradient of CCR Unit, but limited effect on concentrations beneath unit.	CCR groundwater constituents removed from groundwater downgradient of CCR Unit.	CCR constituents removed from groundwater and retained on reactive media or aquifer soil matrix.	Excavated soil generated from PRB installation requires testing and management as necessary.	CCR constituent removal using PRB possible but full-scale performance uncertain. Reactive media effectiveness reduced over time and media likely replaced periodically. Bench/pilot testing of PRB media/system required. Groundwater modelling required to assess remediation timeframe.	No
In-Situ Chemical Treatment	Injection of chemical/material into aquifer to adjust geochemistry and enhance precipitation, co-precipitation, or indirect adsorption of CCR constituents. CCR constituents potentially removed through adsorption, precipitation and/or coprecipitation. Groundwater monitoring to verify system effectiveness.	Migration of CCR constituents in groundwater controlled.	GWPS attained downgradient of CCR Unit, but limited effect on concentrations beneath unit.	CCR groundwater constituents removed from groundwater downgradient of CCR Unit.	CCR constituents removed from groundwater and retained on aquifer soil matrix.	No significant RCRA compliance issues anticipated.	ICT considered emerging remediation technology for CCr constituents - not demonstrated under full-scale conditions. Bench/pilot-scale testing of ICT system required. Groundwater modelling required to assess remediation timeframe.	No
Phytoremediation	Use of plants to remove CCR constituents through uptake and accumulation within above ground portions of the plant. Primary plant process for CCR constituent removal is phytoextraction (uptake/accumulation of contaminants within aboveground portions of a plant). Groundwater monitoring to verify system effectiveness.	Migration of CCR constituents in groundwater controlled.	GWPS attained downgradient of CCR Unit, but limited effect on concentrations beneath unit.	CCR groundwater constituents removed from groundwater downgradient of CCR Unit.	CCR constituents removed from groundwater and accumulates in plants.	Management of harvested plants in accordance with RCRA may be required if accumulated CCR constituent concentrations are high.	Phytoextraction occurs in shallow root zone of plants, which limits the effectiveness for the groundwater depths at the Site. Phytoremediation for CCR constituent removal from groundwater has not been demonstrated under full-scale conditions Bench/pilot-scale testing of phytoremediation system required. Groundwater modelling required to assess remediation timeframe.	No

Table 3

Evaluation of Corrective Measures Alternatives
Oak Grove Steam Electric Station
FGD Ponds

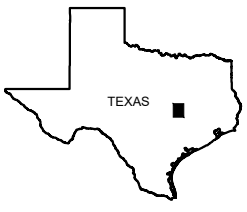
Corrective Measures Alternative	Description	Performance	Reliability	Ease of Implementation	Potential Impacts	Time Requirements	Institutional Requirements
Monitored Natural Attenuation	MNA to remove CCR constituents from groundwater and control migration. Groundwater monitoring to verify MNA effectiveness.	Site is good MNA candidate for CCR constituents based on MNA field evaluation.	On-going attenuation of CCR constituents in groundwater demonstrated during MNA field evaluation. Groundwater monitoring used to verify long-term MNA effectiveness.	Readily implementable with common construction techniques.	CCR constituents removed from groundwater beneath and downgradient of ponds.	MNA Implementation: 2-3 years. Groundwater modelling required to assess remediation timeframe.	Minimal regulatory requirements.
Groundwater Extraction and Treatment	.System of extraction wells along downgradient edge of ponds to provide hydraulic control of CCR constituents groundwater plumes. Extracted groundwater treated in an on-site treatment system and discharged to Twin Oaks Reservoir or re-injected into aquifer. Groundwater monitoring to verify system effectiveness.	Migration of CCR constituents in groundwater controlled at pond boundaries by extraction wells.	Groundwater extraction and treatment is a common and effective hydraulic control technology. Treatment system operational reliability is key component of overall reliability.	Readily implementable with common construction techniques. Bench/pilot testing of treatment system required. Regulatory authorization for treated water discharge could be difficult to obtain.	Control of CCR constituent migration downgradient of ponds by extraction wells. Extraction system does not address groundwater beneath ponds.	GW Ext/Treatment Implementation: 3-4 years. Groundwater modelling required to assess remediation timeframe.	Regulatory authorization for treated water discharge required. Treatment system residuals (sludge, regenerate brine, etc.) require management.
Vertical Hydraulic Barrier and Groundwater Extraction and Treatment	Vertical, low permeability hydraulic barrier along downgradient edge of ponds to provide hydraulic control of CCR constituent groundwater plumes. Groundwater extraction and treatment required upgradient of barrier to control groundwater elevations. Groundwater monitoring to verify system effectiveness.	Migration of CCR constituents in groundwater controlled at pond boundaries by vertical barrier. Groundwater elevations upgradient of barrier controlled by groundwater extraction.	Vertical hydraulic barrier must be keyed into lower impermeable layer. Groundwater extraction and treatment is a common and effective hydraulic control technology. Treatment system operational reliability is key component of overall reliability.	Readily implementable with common construction techniques. Bench/pilot testing of treatment system required. Regulatory authorization for treated water discharge could be difficult to obtain.	Control of CCR constituent migration downgradient of pond by vertical barrier. Vertical barrier does not address groundwater beneath pond.	Barrier and GW Ext/Treat Implementation: 5-8 years. Groundwater modelling required to assess remediation timeframe.	Regulatory authorization for treated water discharge required. Treatment system residuals (sludge, regenerate brine, etc.) require management.

FIGURES

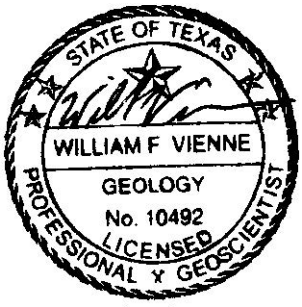


LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- BACKGROUND CCR MONITORING WELL



SITE LOCATION



08/20/2024

REFERENCE(S)

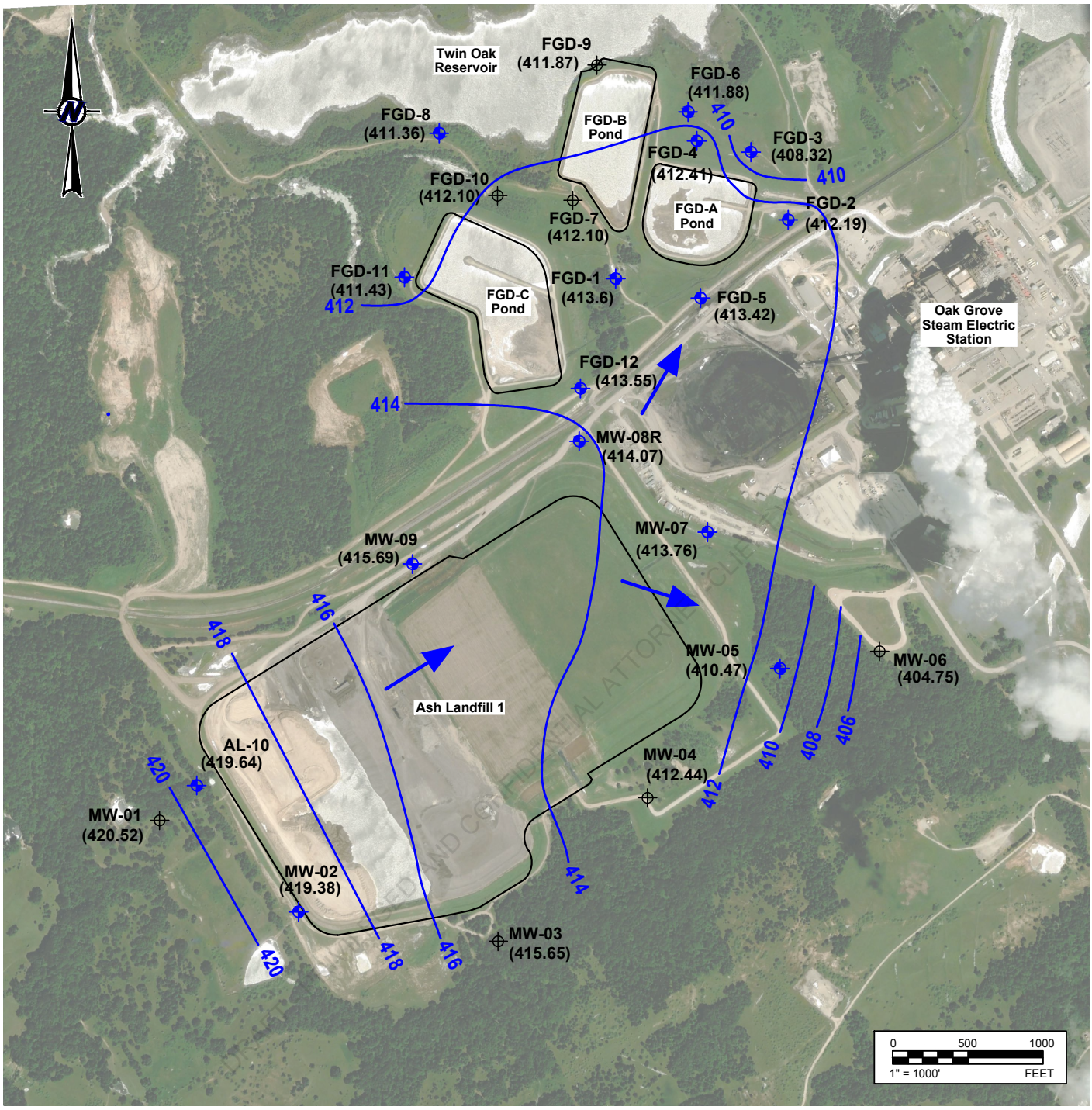
BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 12/9/18.

OAK GROVE STEAM ELECTRIC STATION
ROBERTSON COUNTY, TEXAS

Figure 1
FGD PONDS SITE PLAN

PROJECT: 23643.05	BY: SLB	DATE: 12/5/2023	CHECKED: WV

Bullock, Bennett & Associates, LLC
Engineering and Geoscience
Texas Registrations: Engineering F-8542, Geoscience 50127



LEGEND

- NON-CCR MONITORING WELL
- CCR MONITORING WELL
- *(414.49)* GROUNDWATER POTENTIOMETRIC SURFACE (
- 400 GROUNDWATER POTENTIOMETRIC SURFACE ((C.I. = 2 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
WILLIAM F VIENNE
GEOLOGY
No. 10492
LICENSED
PROFESSIONAL GEOSCIENTIST

08/20/2024

REFERENCE(S)

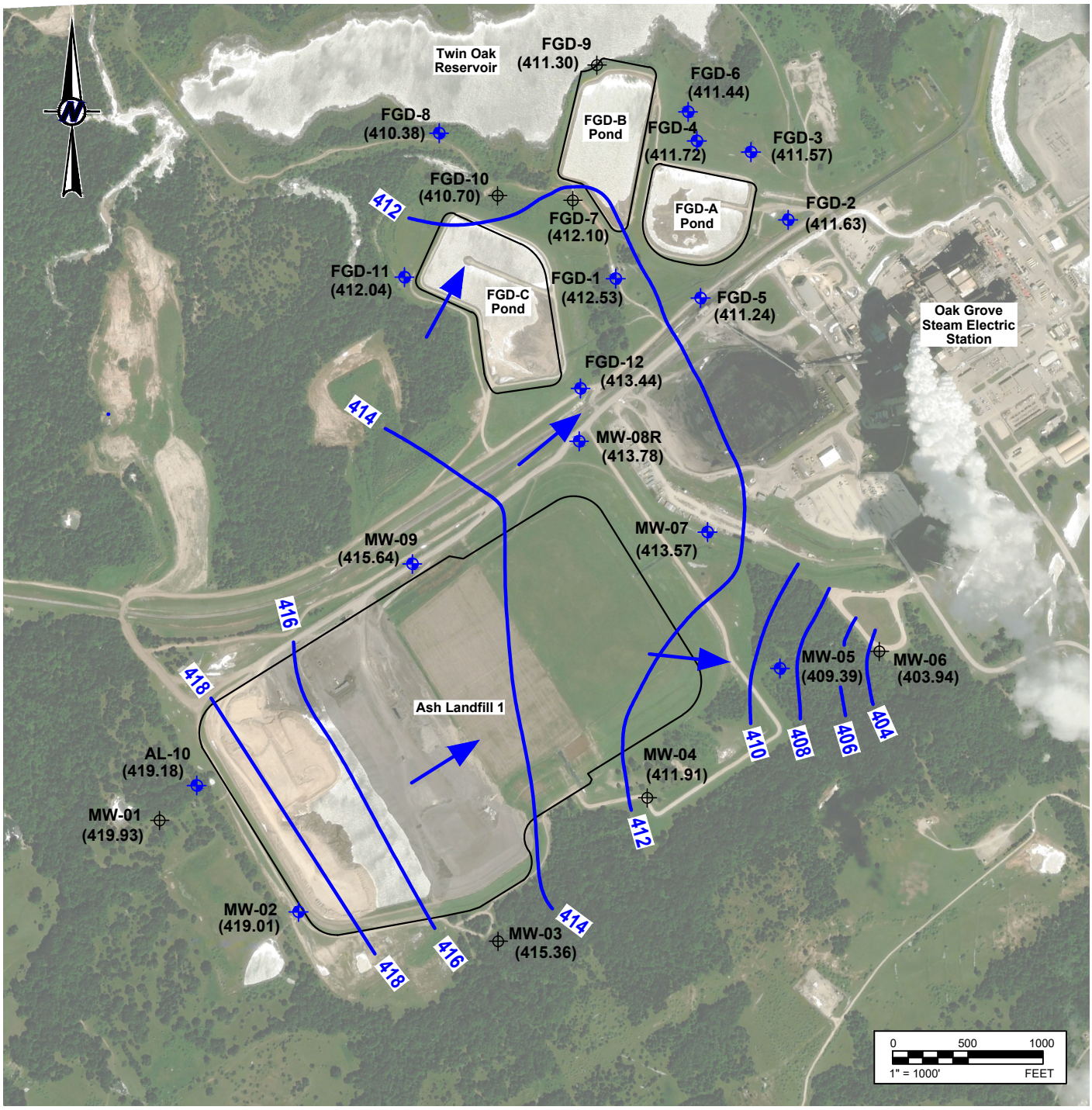
BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED JANUARY 2021

OAK GROVE STEAM ELECTRIC STATION
ROBERTSON COUNTY, TEXAS

Figure 2
ASH LANDFILL AND FGD PONDS
POTENTIOMETRIC SURFACE MAP - MAY 2023

PROJECT: 23643.05	BY: SLB	DATE: 12/5/2023	CHECKED: WV

Bullock, Bennett & Associates, LLC
Engineering and Geoscience
Texas Registrations: Engineering F-8542, Geoscience 50127



LEGEND

- NON-CCR MONITORING WELL
- CCR MONITORING WELL
- (414.49) GROUNDWATER POTENTIOMETRIC SURFACE
- 400 GROUNDWATER POTENTIOMETRIC SURFACE (C.I. = 2 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
WILLIAM F VIENNE
GEOLOGY
No. 10492
LICENSED
PROFESSIONAL GEOSCIENTIST

08/20/2024

REFERENCE(S)
BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED JANUARY 2021

OAK GROVE STEAM ELECTRIC STATION
ROBERTSON COUNTY, TEXAS

Figure 3
ASH LANDFILL AND FGD PONDS
POTENTIOMETRIC SURFACE MAP - AUGUST 2023

PROJECT: 23643.05	BY: SLB	DATE: 12/5/2023	CHECKED: WV

Bullock, Bennett & Associates, LLC
Engineering and Geoscience
Texas Registrations: Engineering F-8542, Geoscience 50127

APPENDIX A

BORING LOGS

RECORD OF BOREHOLE MW-FGD-01

DATUM: LOCAL

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 27-Aug-2008
BORING FINISHED: 27-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

NORTHING (ft): 4549.42
EASTING (ft): 2454.41
ELEVATION (ft): 421.91

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✪ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % ★ (20 40 60 80); WATER CONTENT PERCENT (PL — W — LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		Muddy with vegetation										
0		GROUND SURFACE		421.9								
		Firm, brown to light brown, sandy CLAY, some vegetative presence, dry		0.0	SB-1		2 3 3 N6	40				
		trace red at 1.5'										
2		Hard, grayish brown with red, CLAY, with sand, dry		2.0	SB-2		8 20 32 N52	67				
4		Hard, gray, trace red, silty CLAY, dry		4.0	SB-3		10 14 18 N32	73				
6		red, some iron oxide at 6'			SB-4		7 13 14 N27	87				
		Compact, grayish brown, SAND, with silt, damp		7.0								
8		reddish brown, some clay at 8'			SB-5		6 7 8 N15	87				
10		trace red at 10'			SB-6		7 8 8 N16	87				
12					SB-7		3 10 13 N23	67				
14		wet at 14'			SB-8		7 9 9 N18	100				▼ 14' 08/27/2008
16					SB-9		1 10 12 N22	87				
18					SB-10		1 10 19 N29	93				
20		some yellowish brown at 19.5'										
		--- CONTINUED NEXT PAGE ---										

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: DH
CHECKED: BLT

RECORD OF BOREHOLE MW-FGD-01

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 27-Aug-2008
BORING FINISHED: 27-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

DATUM: LOCAL
NORTHING (ft): 4549.42
EASTING (ft): 2454.41
ELEVATION (ft): 421.91

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✿ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % (20 40 60 80 ★); WATER CONTENT PERCENT (PL W LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		--- CONTINUED FROM PREVIOUS PAGE ---										
20		very dense at 20'		20.0	SB-11		15 26 35 N61	87				
22		dense, grayish brown and mottled yellow at 22'			SB-12		17 21 27 N48	100				
24		very dense, moist at 24'			SB-13		18 25 35 N60	87				
26					SB-14		16 17 35 N52	93				
28					SB-15		20 35 36 N71	100				
30					SB-16		18 28 32 N60	87				
32					SB-17		21 36 50/5"	93				
34		Very dense, dark brownish gray, clayey SAND, trace iron oxide, damp		33.0								
		BORING TERMINATED AT 34'		34.0								
36												
38												
40												

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: DH
CHECKED: *BLT*

OAK GROVE - MW 94281GINT.GPJ GLDR_HOU.GDT 10/31/08

RECORD OF BOREHOLE MW-FGD-02

DATUM: LOCAL

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 22-Aug-2008
BORING FINISHED: 25-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

NORTHING (ft): 4261.32
EASTING (ft): 3643.72
ELEVATION (ft): 436.24

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✪ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % ★ (20 40 60 80); WATER CONTENT PERCENT (PL W LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		Muddy										
		GROUND SURFACE		436.2								
0		Stiff, brown with some dark brown, sandy CLAY, some gravel, damp		0.0	SB-1		4 4 5 N9	27				
2		very stiff, dark brown at 2'			SB-2		4 7 16 N23	47				
4		very stiff, brown to yellowish brown, some iron oxide traces, possible lignite traces, dry at 4'			SB-3		7 10 13 N23	53				
6		Very stiff, mottled gray and brown, CLAY, some gravel, dry		6.0	SB-4		5 13 15 N28	67				
8		Very stiff, brown, yellow, and gray, mottled, sandy CLAY		8.0	SB-5		5 13 16 N29	53				
10		hard at 10'			SB-6		7 13 20 N33	80				
		gray at 11'										
12		Dense, light gray, fine, silty SAND, with a seam of clay, damp		12.0	SB-7		14 17 21 N38	87				
14					SB-8		10 19 27 N46	93				
16					SB-9		16 23 24 N47	87				
		seam of hard CLAY		17.5								
18		very dense at 18'										
				18.5								
		seam of very hard CLAY		18.8	SB-10		10 25 36 N61	87				
				19.8								
20		--- CONTINUED NEXT PAGE ---										

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: DH
CHECKED: BLT

OAK GROVE - MW 94281GINT.GPJ GLDR_HOU.GDT 10/31/08

RECORD OF BOREHOLE MW-FGD-02

DATUM: LOCAL

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 22-Aug-2008
BORING FINISHED: 25-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

NORTHING (ft): 4261.32
EASTING (ft): 3643.72
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DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✪ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % (20 40 60 80 ★) / WATER CONTENT PERCENT (PL W LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		--- CONTINUED FROM PREVIOUS PAGE ---										
20		dense at 20'		20.0	SB-11		14 19 27 N46	92				
		seam of hard CLAY		21.0								
22		very dense at 22'		22.0	SB-12		13 27 37 N64	100				
24					SB-13		17 29 28 N57	87				
26					SB-14		17 25 42 N67	67				
		yellow at 27.5'										
28					SB-15		20 39 50/5"	87				
30		gray at 30.5'			SB-16		25 45 24 N69	87				
32												▼ 32' 08/22/2008
		Very loose, brown, SAND, moist		33.0	SB-17		4 1 2 N3	80				
34												
		Very stiff, brown, sandy CLAY, moist		35.0	SB-18		7 14 14 N28	73				
36		Hard, brown, CLAY, with silt, moist		36.0	SB-19		8 25 50/4"	93				
		Very dense, brown, SAND		37.5								
38		gray and yellow, mottled at 39'			SB-20		20 45 50/3"	80				
40		*--- CONTINUED NEXT PAGE ---*										

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: DH
CHECKED: *BLT*

OAK GROVE - MW 94281GINT.GPJ GLDR_HOU.GDT 10/31/08

RECORD OF BOREHOLE MW-FGD-02

DATUM: LOCAL

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 22-Aug-2008
BORING FINISHED: 25-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

NORTHING (ft): 4261.32
EASTING (ft): 3643.72
ELEVATION (ft): 436.24

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✪ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % (20 40 60 80 ★); WATER CONTENT PERCENT (PL W LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		--- CONTINUED FROM PREVIOUS PAGE ---										
40		brownish gray at 40'		40.0	SB-21		24 42 50/4"	87				
42		gray at 41' dense at 42'			SB-22		32 25 22 N47	100				
44		seam of hard, yellowish gray and brown, CLAY at 43.5'		43.5	SB-23		18 36 50/4"	100				
		very dense at 44'		44.5	SB-24		32 45 50/3"	73				
48					SB-25		24 24 50/5"	80				
50					SB-26		32 45 50/3"	87				
52		BORING TERMINATED AT 52'		52.0								
54												
56												
58												
60												

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: DH
CHECKED: *BLT*

OAK GROVE - MW 94281GINT.GPJ GLDR_HOU.GDT 10/31/08

RECORD OF BOREHOLE MW-FGD-03

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 21-Aug-2008
BORING FINISHED: 21-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

DATUM: LOCAL
NORTHING (ft): 4780.02
EASTING (ft): 3685.25
ELEVATION (ft): 432.04

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✪ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % ★ (20 40 60 80); WATER CONTENT PERCENT (PL — W — LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		Muddy										
		GROUND SURFACE		432.0								
0		Soft to firm, reddish brown, CLAY, with sand, some gravel		0.0	SB-1		2 2 2 N4	33				
2					ST-2			70	⊕			
4		very stiff, brown, mottled at 4'			SB-3		5 7 12 N19	83				
6					SB-4		5 12 15 N27	93				
		Very stiff, gray, silty CLAY		7.5								
8					SB-5		5 8 12 N20	87				
10		trace brown at 10'			SB-6		4 7 9 N16	93				
12		stiff, light brown at 12'			SB-7		3 5 7 N12	73				
14					SB-8		3 5 6 N11	87				
16					ST-9			55	⊕			
		Stiff, brown, CLAY, damp		17.0								
18		firm to stiff at 18'			SB-10		2 3 5 N8	100				
20												
		--- CONTINUED NEXT PAGE ---										

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: DH
CHECKED: BLT

RECORD OF BOREHOLE MW-FGD-03

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 21-Aug-2008
BORING FINISHED: 21-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

DATUM: LOCAL
NORTHING (ft): 4780.02
EASTING (ft): 3685.25
ELEVATION (ft): 432.04

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✿ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % (20 40 60 80 ★) / WATER CONTENT PERCENT (PL W LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		--- CONTINUED FROM PREVIOUS PAGE ---										
20		firm at 20'		20.0	SB-11		2 2 3 N5	100				
22		firm to stiff at 22'			SB-12		2 3 5 N8	100				
24		dark brown, some silt at 24'			SB-13		2 3 5 N8	87				
26		Dense, light brown, SAND, moist		26.0	SB-14		12 15 30 N45	73				▼ *26' 08/21/2008*
28		very dense, gray at 28'			SB-15		12 31 30 N61	73				
30		dense, trace yellowish brown at 30'			SB-16		5 14 17 N31	67				
32		Hard, brown, some mottled dark brown, CLAY, damp		33.0	SB-17		3 13 21 N34	67				
34		Hard, gray and yellowish brown mottled, sandy CLAY, some iron staining		34.0	SB-18		6 21 23 N44	67				
36					SB-19		5 13 20 N33	87				
38					SB-20		7 16 25 N41	80				
40		*--- CONTINUED NEXT PAGE ---*										

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: DH
CHECKED: *BLT*

OAK GROVE - MW 94281GINT.GPJ GLDR_HOU.GDT 10/31/08

RECORD OF BOREHOLE MW-FGD-03

DATUM: LOCAL

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 21-Aug-2008
BORING FINISHED: 21-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

NORTHING (ft): 4780.02
EASTING (ft): 3685.25
ELEVATION (ft): 432.04

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✪ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % ★ (20 40 60 80); WATER CONTENT PERCENT (PL — W — LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		--- CONTINUED FROM PREVIOUS PAGE ---										
40		trace iron oxide at 40'		40.0	SB-21		7 16 25 N41	80				
42					SB-22		10 19 29 N48	74				
44					ST-23			100	⊕			
46					SB-24		13 23 36 N59	73				
48		BORING TERMINATED AT 48'		48.0								
50												
52												
54												
56												
58												
60												

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: DH
CHECKED: *BLT*

OAK GROVE - MW 94281GINT.GPJ GLDR_HOU.GDT 10/31/08

RECORD OF BOREHOLE MW-FGD-04

DATUM: LOCAL

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 20-Aug-2008
BORING FINISHED: 20-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

NORTHING (ft): 5039.72
EASTING (ft): 3414.63
ELEVATION (ft): 429.19

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✪ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % ★ (20 40 60 80); WATER CONTENT PERCENT (PL W LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		Muddy										
0		GROUND SURFACE		429.2								
		Brown, sandy CLAY, damp		0.0	ST-1			75				
2		Brown, CLAY, with silt, damp		2.0	ST-2			65				
4		very stiff, reddish and yellowish brown, mottled, with occasional calcareous nodules at 4'			SB-3		4 6 10 N16	67				
6					ST-4			87				
8					SB-5		9 11 14 N25	27				
		Very stiff, brown, sandy CLAY, damp		9.0								
10		with occasional coarse, angular gravel at 9.5' reddish brown at 10'			SB-6		7 9 9 N18	53				
12		stiff at 12'			SB-7		10 5 4 N9	40				
14		Stiff, reddish brown, CLAY, with sand, damp		14.0	SB-8		4 6 5 N11	27				
		Compact, brown, fine, silty SAND, damp		15.5								
16		light brown at 16.25' reddish brown at 17.25'			SB-9		7 12 14 N26	93				
18		Compact, reddish brown, clayey SAND, moist		18.0								
		Compact, light brown, fine, SAND, moist		19.0	SB-10		5 8 15 N23	87				
20		--- CONTINUED NEXT PAGE ---										

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: CS
CHECKED: *BLT*

RECORD OF BOREHOLE MW-FGD-04

DATUM: LOCAL

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 20-Aug-2008
BORING FINISHED: 20-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

NORTHING (ft): 5039.72
EASTING (ft): 3414.63
ELEVATION (ft): 429.19

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✿ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % ★ (20 40 60 80); WATER CONTENT PERCENT (PL W LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		--- CONTINUED FROM PREVIOUS PAGE ---										
20		dense, occasional seams of gray at 20'		20.0	SB-11		6 20 20 N40	100				
22		occasional streaks of yellowish brown at 22'			SB-12		12 15 19 N34	93				▼ 22' 08/20/2008
24		very dense, gray with mottled reddish brown at 24'			SB-13		14 28 30 N58	100				
26		dense, mottled, reddish brown, yellowish brown, and gray at 26'			SB-14		13 21 22 N43	100				
28		very dense at 28'			SB-15		11 15 50 N65	87				
30		dense at 30'			SB-16		8 15 21 N36	87				
32					SB-17		14 18 27 N45	80				
34		very dense at 34'			SB-18		20 31 35 N66	100				
36					SB-19		20 31 31 N62	100				
38					SB-20		21 42 50/5"	100				
40		*--- CONTINUED NEXT PAGE ---*										

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: CS
CHECKED: *BLT*

OAK GROVE - MW 94281GINT.GPJ GLDR_HOU.GDT 10/31/08

RECORD OF BOREHOLE MW-FGD-04

SHEET 3 OF 3
DATUM: LOCAL

PROJECT: OAK GROVE SES
LOCATION: FRANKLIN, TEXAS

BORING STARTED: 20-Aug-2008
BORING FINISHED: 20-Aug-2008

DRILLING EQUIPMENT: MOBILE B-57 BUGGY
DRILLING OPERATOR: Lewis Environmental Drilling

NORTHING (ft): 5039.72
EASTING (ft): 3414.63
ELEVATION (ft): 429.19

DEPTH SCALE FEET	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (ft)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.5 FT	RECOVERY%	UNDRAINED SHEAR STRENGTH Cu (CU - ● P.P. - ⊕ Field Vane Shear ■; UU - ✿ TORV. - ▲ UCS - ✳; 400 800 1200 1600)	ROCK QUALITY DESIGNATION (RQD) % ★ (20 40 60 80); WATER CONTENT PERCENT (PL — W — LL; 20 40 60 80)	ADDITIONAL LAB. TESTING	INSTALLATION NOTES AND GROUNDWATER OBSERVATIONS
		--- CONTINUED FROM PREVIOUS PAGE ---										
40				40.0	SB-21		18 35 33 N68	100				
42		Hard, gray, CLAY, with sand		42.0	SB-22		11 21 34 N55	100				
44		BORING TERMINATED AT 43.5'		43.5								
46												
48												
50												
52												
54												
56												
58												
60												

DEPTH SCALE
1 inch to 2.5 feet

Golder Associates

LOGGED: CS
CHECKED: *BLT*

OAK GROVE - MW 94281GINT.GPJ GLDR_HOU.GDT 10/31/08

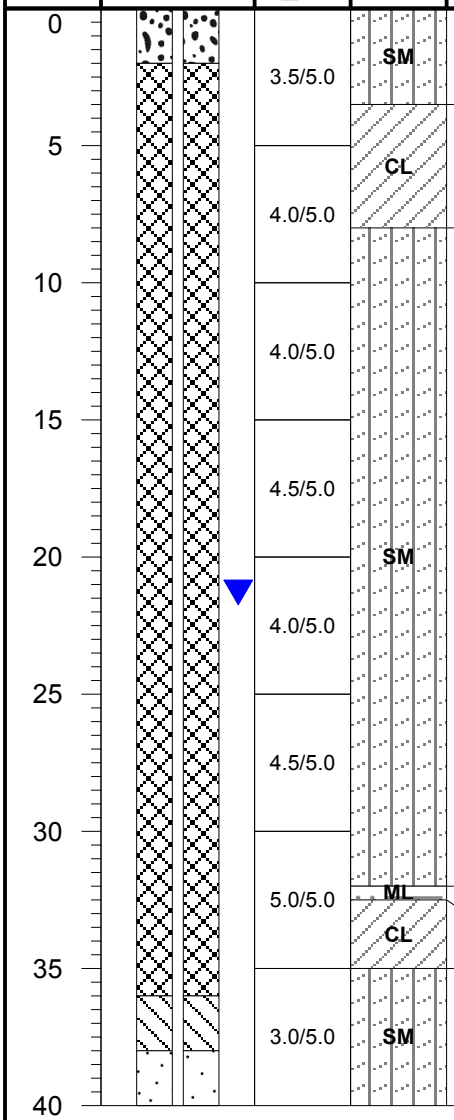
Luminant Power

Log of Boring: FGD-5

Oak Grove Steam Electric Station
Franklin, TX

PBW Project No. 1602

Completion Date:	3/3/10	Drilling Method:	HSA
Drilling Company:	Strata Core, Inc.	Borehole Diameter (in.):	6
Driller:	Roddy Qualls	Total Depth (ft):	50
Driller's License:	3121	Northing:	571950.33
Field Supervisor:	Chris Moore	Easting:	3200628.33
Sampling Method:	3"x5' Barrel	Ground Elev. (ft AMSL):	430.54



Lithologic Description
SILTY SAND, SM, brown, moist, soft.
SILTY CLAY, CL, mottled yellowish brown and yellowish red, moist, firm, with sand from 6'-8'.
SILTY SAND, SM, banded very pale brown and brownish yellow, moist, soft to firm, laminated, very fine grained, trace thinly laminated silt lenses.
SILT, ML, brown, moist to wet, very soft to soft.
CLAY, CL, dark gray, moist, firm to hard, with thinly laminated silt and sand lenses.
SILTY SAND, SM, dark gray to gray, moist, soft to firm, very fine grained, some thinly laminated silt lenses, trace thin carbonaceous lenses, wet at 40', clayey lenses at: 40.5' -41', 44'-44.5, and, 47'-48'.

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Notes:

Initial Fluid Level (3/9/10)
▼ Depth to water: 23.67 ft BTOC

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 36.0) Cement/Bentonite Grout
(36.0 - 38.0) Bentonite Chips
(38.0 - 50.0) 12/20 Silica Sand

Well Materials
(+2.4 - 30.0) Casing, 2" Sch 40 FJT PVC
(30.0 - 40.0) Screen, 2" Sch 40 FJT PVC, 0.01 slot

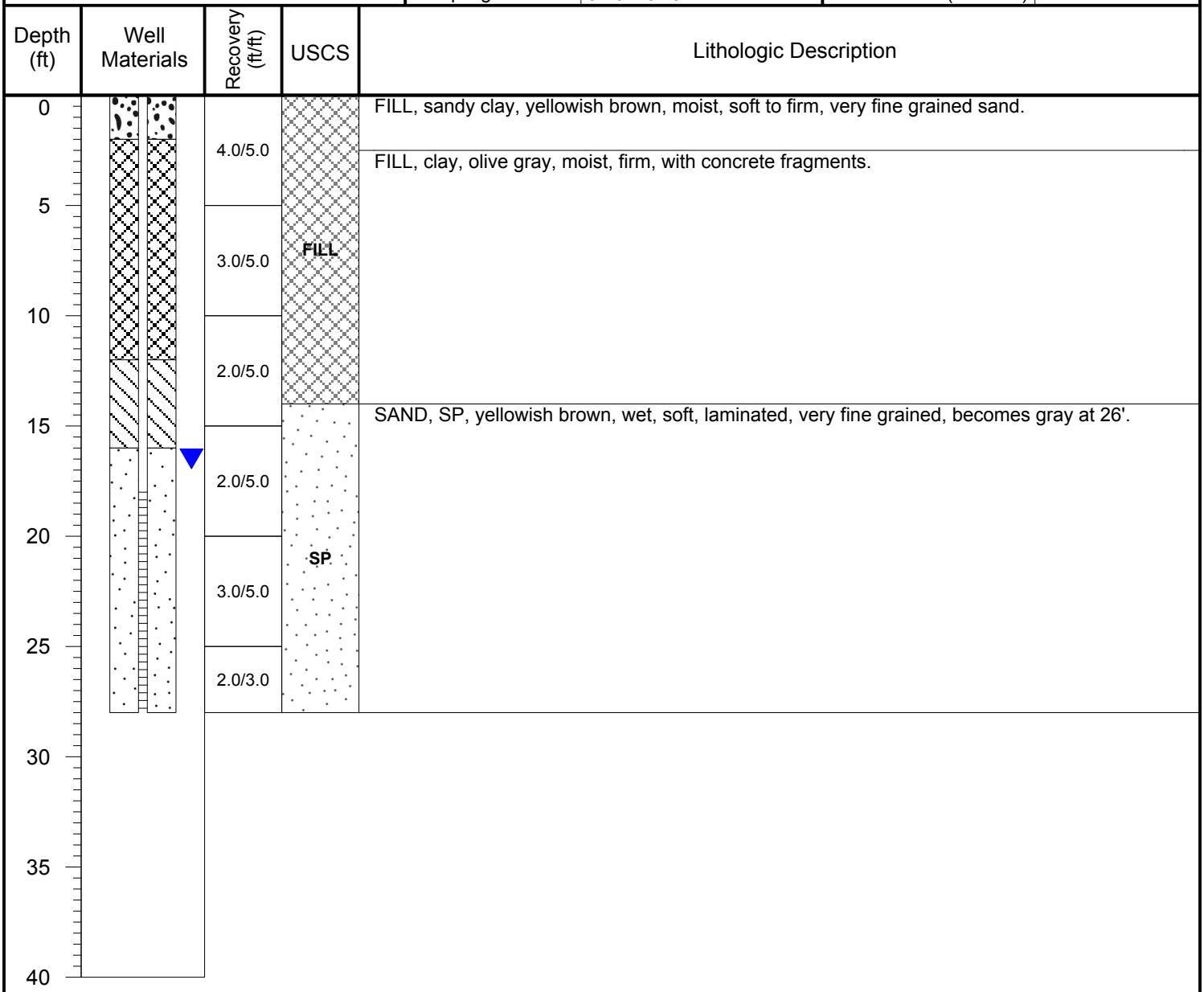
Luminant Power

Log of Boring: FGD-6

Oak Grove Steam Electric Station
Franklin, TX

PBW Project No. 1602

Completion Date:	3/4/10	Drilling Method:	HSA
Drilling Company:	Strata Core, Inc.	Borehole Diameter (in.):	6
Driller:	Roddy Qualls	Total Depth (ft):	28
Driller's License:	3121	Northing:	573195.06
Field Supervisor:	Chris Moore	Easting:	3200525.61
Sampling Method:	3"x5' Barrel	Ground Elev. (ft AMSL):	425.63



PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Notes:

Initial Fluid Level (3/9/10)
▼ Depth to water: 19.48 ft BTOC

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 14.0) Cement/Bentonite Grout
(14.0 - 16.0) Bentonite Chips
(16.0 - 28.0) 12/20 Silica Sand

Well Materials
(+3.0 - 18.0) Casing, 2" Sch 40 FJT PVC
(18.0 - 28.0) Screen, 2" Sch 40 FJT PVC, 0.01 slot

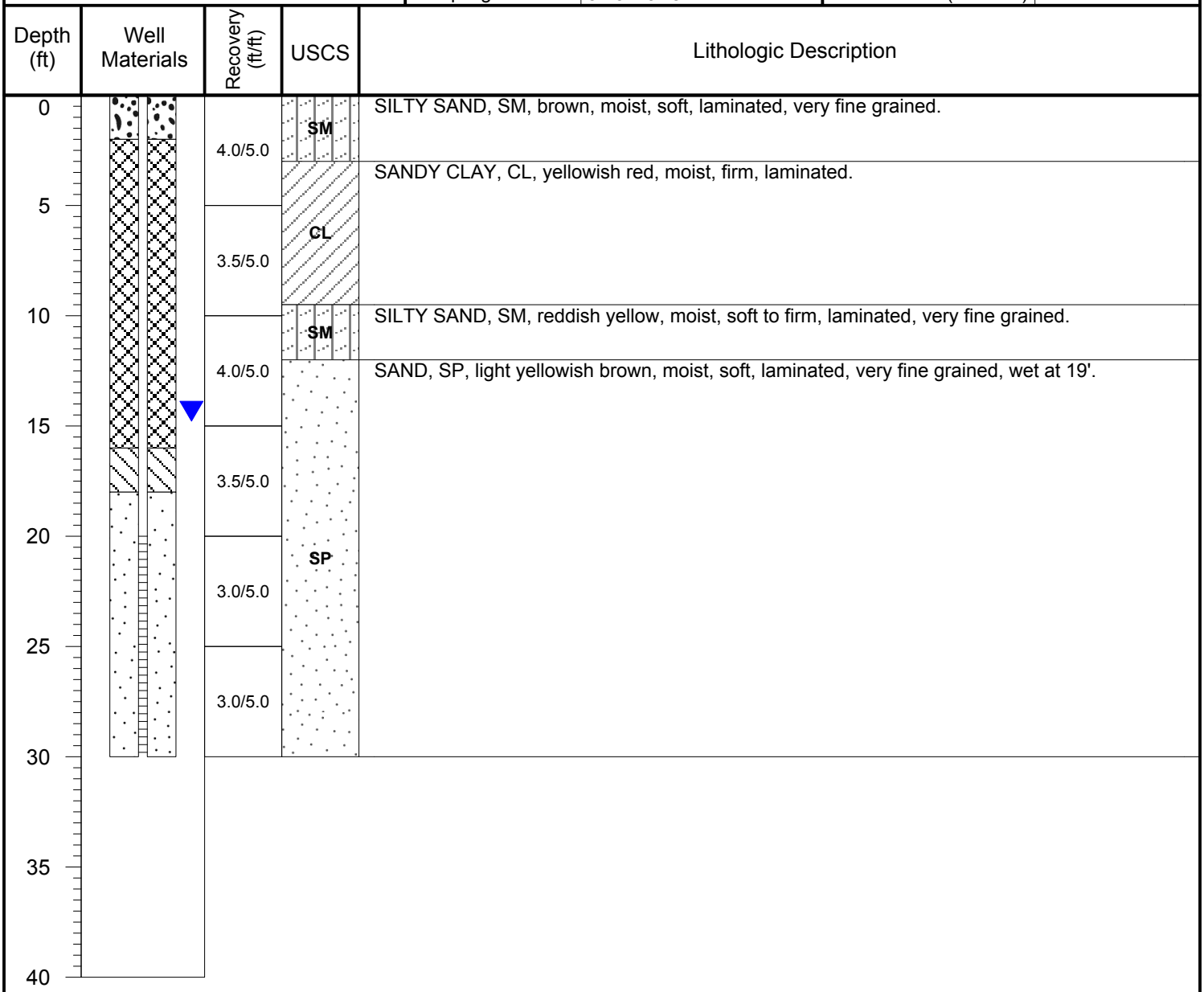
Luminant Power

Log of Boring: FGD-7

Oak Grove Steam Electric Station
Franklin, TX

PBW Project No. 1602

Completion Date:	3/3/10	Drilling Method:	HSA
Drilling Company:	Strata Core, Inc.	Borehole Diameter (in.):	6
Driller:	Roddy Qualls	Total Depth (ft):	30
Driller's License:	3121	Northing:	572591.64
Field Supervisor:	Chris Moore	Easting:	3199761.32
Sampling Method:	3"x5' Barrel	Ground Elev. (ft AMSL):	423.6



PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Notes:

Initial Fluid Level (3/9/10)
▼ Depth to water: 16.55 ft BTOC

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 16.0) Cement/Bentonite Grout
(16.0 - 18.0) Bentonite Chips
(18.0 - 30.0) 12/20 Silica Sand

Well Materials
(+2.2 - 20.0) Casing, 2" Sch 40 FJT PVC
(20.0 - 30.0) Screen, 2" Sch 40 FJT PVC, 0.01 slot

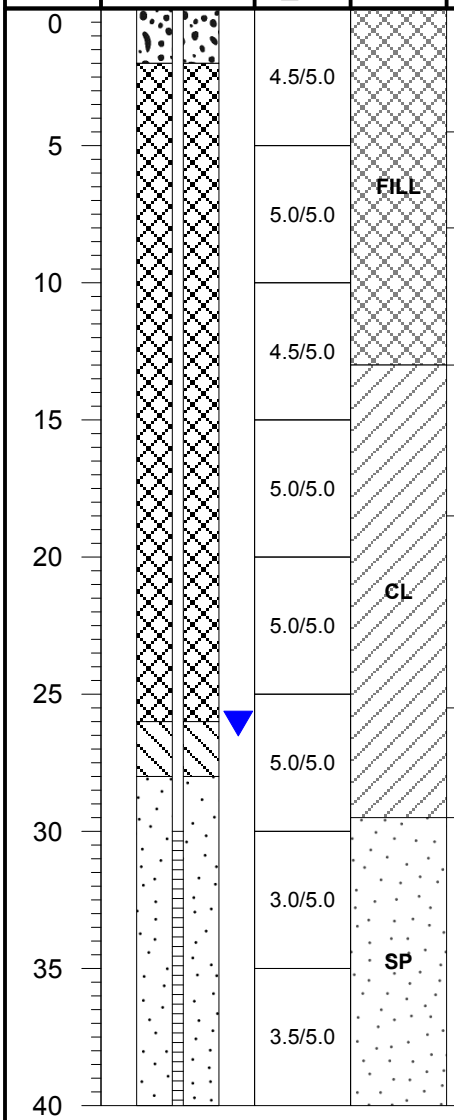
Luminant Power

Log of Boring: FGD-8

Oak Grove Steam Electric Station
Franklin, TX

PBW Project No. 1602

Completion Date:	3/4/10	Drilling Method:	HSA
Drilling Company:	Strata Core, Inc.	Borehole Diameter (in.):	6
Driller:	Roddy Qualls	Total Depth (ft):	40
Driller's License:	3121	Northing:	573033.29
Field Supervisor:	Chris Moore	Easting:	3198862.3
Sampling Method:	3"x5' Barrel	Ground Elev. (ft AMSL):	437.06



Lithologic Description

FILL, silty clay, CL, brown, moist, soft to firm.

FILL, silty sand, SM, very pale brown, dry to moist, soft, very fine grained.

FILL, silty clay, CL, dark gray, moist, firm, crumbles easily, some sand layers.

SANDY, CLAY, CL, strong brown, moist, firm, laminated, very fine grained sand

SILTY CLAY, CL, dark gray, moist, firm, with sand laminae.

SILTY CLAY, CL, mottled gray and brown, moist, firm to hard, some sand laminae, some oxidized staining.

SAND, SP, dark gray, wet, very soft to soft, very fine grained, some silty laminae.

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Notes:

Initial Fluid Level (3/9/10)
▼ Depth to water: 29.11 ft BTOC

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 26.0) Cement/Bentonite Grout
(26.0 - 28.0) Bentonite Chips
(28.0 - 40.0) 12/20 Silica Sand

Well Materials
(+3.0 - 30.0) Casing, 2" Sch 40 FJT PVC
(30.0 - 40.0) Screen, 2" Sch 40 FJT PVC, 0.01 slot

Golder Associates
500 Century Plaza Drive, Suite 190
Houston, Texas 77073
Telephone: (281) 821-6868
Fax: (281) 821-6870

BOREHOLE FGD-11

CLIENT Luminant Power
PROJECT NUMBER 1406296
DATE STARTED 11/25/14 **COMPLETED** 11/26/14
DRILLING CONTRACTOR Envirotech
DRILLING METHOD Auger
LOGGED BY DMW **CHECKED BY** CFR
NOTES

PROJECT NAME Luminant
PROJECT LOCATION Oak Grove SES
GROUND ELEVATION 448.67 ft **HOLE SIZE** 6 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING 40 40' bgs
AT END OF DRILLING
AFTER DRILLING

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	DRY UNIT WT. (pcf)
0		Firm, brown and green, CLAY, and topsoil, moist	ST	75		1.0	
		Hard, brown and tan, SANDY CLAY, moist	ST	50		4.5	
5			ST	54		4.5	
			SS	58	3-5-7-10 (12)		
			SS	79	6-8-8-9 (16)		
10			SS	67	5-9-10-12 (19)		
			SS	71	6-8-9-12 (17)		
		Very stiff, red and black, CLAY, with brown sand, moist					
15		Stiff, brown and tan, SANDY CLAY, moist	SS	67	6-8-6-7 (14)		
		maroon, gravel sized rocks at 15.0'	SS	92	5-6-8-9 (14)		
			SS	79	4-6-8-9 (14)		
20		Compact, brown and tan, CLAYEY SAND, moist	SS	71	6-8-7-8 (15)		
		with gray and brown clay lenses at 21.0'	SS	79	7-8-11-15 (19)		
		loosely consolidated sand at 23.0'	SS	83	9-13-17-19 (30)		
25		orange mottlings at 25.0'	SS	83	9-10-14-16 (24)		
			SS	92	8-9-18-21 (27)		
30		Very stiff, gray, SAND and CLAY, moist dense at 29.5'					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
□ FINES CONTENT (%) □
20 40 60 80

(Continued Next Page)

Golder Associates
500 Century Plaza Drive, Suite 190
Houston, Texas 77073
Telephone: (281) 821-6868
Fax: (281) 821-6870

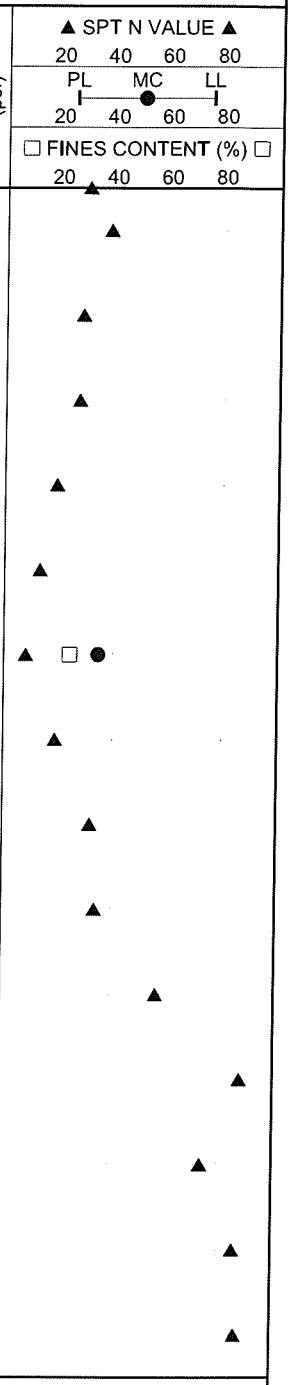
BOREHOLE FGD-11

CLIENT Luminant Power **PROJECT NAME** Luminant

PROJECT NUMBER 1406296 **PROJECT LOCATION** Oak Grove SES

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	DRY UNIT WT. (pcf)
30		Very stiff, gray, SAND and CLAY, moist *(continued)*	SS	83	9-13-17-19 (30)		
		without clay at 31.0'	SS	88	10-16-22-22 (38)		
		Dense, gray and tan, SILTY SAND, moist					
		poorly consoldiated at 33.0'	SS	83	7-11-17-17 (28)		
35			SS	71	6-13-14-15 (27)		
		Very stiff, gray, SILTY CLAY, moist	SS	75	4-6-13-17 (19)		
		Dense, gray and tan, SILTY SAND, moist					
		moist to wet at 38.0'	SS	71	6-5-8-10 (13)		
40		Compact, gray and tan, SAND, moist to wet	SS	67	3-4-4-7 (8)		
		Compact, gray and tan, SILTY SAND, wet					
		Very stiff, gray, SILTY CLAY, moist	SS	88	7-9-10-13 (19)		
		Dense, gray and tan, SILTY SAND, moist to wet	SS	92	3-8-24-28 (32)		
45		moist at 46.0'	SS	83	4-8-26-40 (34)		
		slightly wet at 48.0'	SS	75	14-28-29-34 (57)		
50		very dense at 50.0'	SS	92	9-38-50 (88)		
		moist at 52.0'	SS	83	15-28-46-50 (74)		
		moist to wet at 54.0'	SS	71	14-36-50 (86)		
55			SS		21-39-48-113 (87)		

Bottom of borehole at 58.0 feet.



Golder Associates
500 Century Plaza Drive, Suite 190
Houston, Texas 77073
Telephone: (281) 821-6868
Fax: (281) 821-6870

BOREHOLE FGD-12

CLIENT Luminant Power
PROJECT NAME Luminant
PROJECT NUMBER 1406296
PROJECT LOCATION Oak Grove SES
DATE STARTED 11/26/14 **COMPLETED** 11/26/14
GROUND ELEVATION 439.48 ft **HOLE SIZE** 6 inches
DRILLING CONTRACTOR Envirotech
GROUND WATER LEVELS:
DRILLING METHOD Auger
▽ **AT TIME OF DRILLING 32** 32' bgs
LOGGED BY DMW **CHECKED BY** CFR
AT END OF DRILLING
NOTES
AFTER DRILLING

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0		Firm, brown, CLAY, topsoil, moist	ST	46		1.0		
		Hard, brown, SANDY CLAY, moist	ST	63		4.5		
5			ST	42		4.5		
			SS	75	6-8-10-7 (18)			▲
		Firm, red, orange and gray, CLAY, moist, with red and orange mottling	SS	75	5-8-10-11 (18)			▲
10			SS	75	6-8-12-14 (20)			▲
		Very stiff, gray and red, SILTY CLAY, moist, silt partings	SS	71	4-8-14-15 (22)			▲
15		increasing silt at 15.0'	SS	63	8-10-19-16 (29)			▲
		decreasing silt at 16.0'	SS	75	5-9-12-16 (21)			▲
		Dense, red and gray, SANDY SILT, moist increasing silt at 17.5'						
		Compact, orange and tan, SILTY SAND, moist	SS	79	8-14-12-8 (26)			▲
20		loosely consoldiated at 19.0'						
		increased clay at 20.0'	SS	63	7-5-5-6 (10)			▲
		more consolidated at 21.0'	SS	83	9-12-13-15 (25)			▲
		Stiff, gray, SILTY CLAY, moist, silt partings						
25		intervals of gray sand mixed with silty clay at 25.0'	SS		17-11-16-20 (27)			▲
		Dense, gray, SAND, moist	SS		12-18-14-15 (32)			▲
		Stiff, gray, SILTY CLAY, moist						
		Dense, gray, SILTY SAND, with interbedded clay, moist, with red staining	SS	83	9-19-19-17 (38)			● ▲
30								

(Continued Next Page)

Golder Associates
500 Century Plaza Drive, Suite 190
Houston, Texas 77073
Telephone: (281) 821-6868
Fax: (281) 821-6870

BOREHOLE FGD-12

CLIENT Luminant Power **PROJECT NAME** Luminant

PROJECT NUMBER 1406296 **PROJECT LOCATION** Oak Grove SES

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
30		Dense, gray, SILTY SAND, with interbedded clay, moist, with red staining *(continued)*	SS	88	4-5-15-24 (20)			▲
		▽ red to moist, turning red at 32.0'	SS	67	10-16-30-28 (46)			▲
35		brown to gray at 34.0'	SS	63	14-24-48-42 (72)			▲
			SS	92	8-18-32-42 (50)			▲
		increasing sand at 38.0'	SS	92	8-26-48-50 (74)			▲
40			SS	92	3-4-10-26 (14)			▲
		gray and tan at 42.0'	SS	92	13-24-42-43 (66)			▲
45			SS	92	16-30-45-50 (75)			▲
			SS	58	20-36-50 (86)			▲
50			SS	88	16-40-50 (90)			▲
			SS	71	18-26-50 (76)			▲
			SS	63	4-30-50 (80)			▲
55			SS	50	7-24-50 (74)			▲
			SS	58	22-48-50 (98)			▲
			SS	54	24-48-50 (98)			▲
60		dark gray at 60.0'	SS	46	25-48-50 (98)			▲
			SS	50	30-50			

Bottom of borehole at 64.0 feet.

APPENDIX B

LABORATORY ANALYTICAL REPORTS

July 11, 2024

Will Vienne
BBA Engineering
165 N. Lampasas St.
Bertram, TX 78605
TEL: (512) 355-9198
FAX:

Order No.: 2406193

RE: OGSES-ACM Sampling

Dear Will Vienne:

DHL Analytical, Inc. received 5 sample(s) on 6/19/2024 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAP except where noted in the Case Narrative. All non-NELAP methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211 - TX-C24-00120

Table of Contents

DHL ANALYTICAL
2300 Double Creek Dr. Round Rock, TX 78664
Phone 512.388.8222
Web: **www.dhlanalytical.com**
Email: **login@dhlanalytical.com**

CHAIN-OF-CUSTODY

CLIENT: BBA
ADDRESS: 165 N. LAMPASAS ST, BERTRAM, TX
PHONE: 512-355-9198 EMAIL:
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

DATE: 6-18-24
PO#: 236431-23

LAB USE ONLY
DHL WORKORDER #: 2406193

PROJECT LOCATION OR NAME: OGSES- ACM SAMPLING
CLIENT PROJECT # 236431-23 COLLECTOR: JOHN BRAYTON

Authorize 5% surcharge for TRRP report? ☐ Yes ☐ No

W=WATER L=LIQUID S=SOIL SO=SOLID SE=SEDIMENT P=PAINT SL=SLUDGE

Field Sample I.D.	Lab Use Only DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	PRESERVATION: HCL ☐ H_3PO_4 ☐	HNO_3	H_2SO_4	NaOH ☐ Zn Acetate ☐	ICE ☐ UNPRESERVED ☐	ANALYSES	ASBESTOS IN	FIELD NOTES
FGD-A POND	01	6-17-24	1000	W	P	3		X					X	
FGD-16	02	6-18-24	0900	W	P	3		X					X	
FGD-4	03	"	0845	W	P	3		X					X	
FGD-3	04	"	1000	W	P	3		X					X	
FGD-2	05	"	1105	W	P	3		X					X	

ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8260] · TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ · GRO 8015 ☐ DRO 8015 ☐ · VOC 8260 ☐ VOC 624.1 ☐ · SVOC 8270 ☐ SVOC 625.1 ☐ · PAH 8270 ☐ HOLD PAH ☐ · PEST 8270 ☐ 625.1 ☐ O-P PEST 8270 ☐ · PCB 8082 ☐ 608.3 ☐ PCB 8270 ☐ 625.1 ☐ · HERB 8321 ☐ T PHOS ☐ AMMONIA ☐ · METALS 6020 ☐ 200.8 ☐ DISS. METALS ☐ · RCRA 8 ☐ TX11 ☐ _____ · pH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ · ANIONS 300 ☐ 9056 ☐ _____ · TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ · TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ · RCI ☐ IGN ☐ DGAS ☐ OIL&GREASE ☐ · TDS ☐ TSS ☐ % MOIST ☐ CYANIDE ☐

Relinquished By: (Sign)	DATE/TIME	Received by:
	6-18-24 1800	Fedex
Relinquished By: (Sign)	DATE/TIME	Received by:
Fedex	6/19/24 0842	
Relinquished By: (Sign)	DATE/TIME	Received by:

TURN AROUND TIME (CALL FIRST FOR RUSH)
RUSH-1 DAY☐ RUSH-2 DAY☐ RUSH-3 DAY☐
NORMAL ☒ OTHER ☐
DUE DATE _____ ☐

LAB USE ONLY **THERMO #:** 78
RECEIVING TEMP (°C): 4.2°C
IF >6°C, ARE SAMPLES ON ICE AND JUST COLLECTED? YES / NO
CUSTODY SEALS ON ICE CHEST: ☐ BROKEN ☑ INTACT ☐ NOT USED
CARRIER: ☐ LSO ☑ FEDEX ☐ UPS ☐ COURIER ☐ HAND DELIVERED

☐ **DHL DISPOSAL @ $10.00 each**

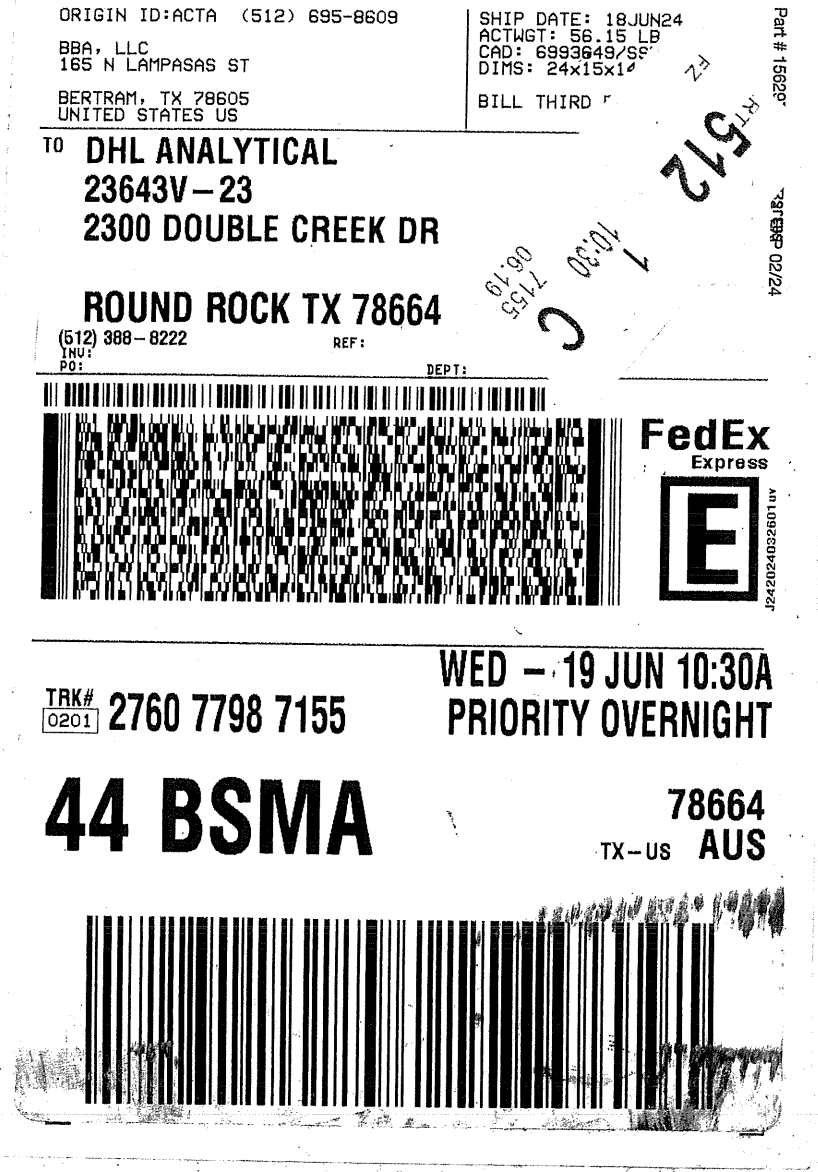
Eric Lau

From: John DuPont
Sent: Tuesday, May 28, 2019 11:35 AM
To: Eric Lau
Subject: FW: CCR Analysis

Appendix III Parameters:
Metals (Ca and B)
Anions (Cl, F, and SO4)
TDS

Appendix IV Parameters:

Metals (As, Ba, Be, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, and Tl)
Ra-226
Ra-228



ORIGIN ID:ACTA (512) 695-8609

BBA, LLC
165 N LAMPASAS ST

BERTRAM, TX 78605
UNITED STATES US

SHIP DATE: 18JUN24
ACTWGT: 56.15 LB
CAD: 6993649/SS
DIMS: 24x15x1

BILL THIRD

Part # 156220-

TO DHL ANALYTICAL
23643V-23
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

J242024032601UV

TRK# 0201 2760 7798 7155

WED - 19 JUN 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

DHL ANALYTICAL

CUSTODY SEAL

DATE 6.18.24

SIGNATURE

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name: **BBA Engineering**

Date Received: **6/19/2024**

Work Order Number: **2406193**

Received by: **KAO**

Checklist completed by: _____ 6/19/2024
Signature | Date

Reviewed by: _____ 6/19/2024
Initials | Date

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑ NA ☐
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 13171
	Adjusted? no		Checked by EL
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Cooler # 1

Temp °C 4.2

Seal Intact Y

Any No response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: OGSES-ACM Sampling	**LRC Date:** 7/11/24
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2406193
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
R1	OI	**1)** Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				**R1-01**
		2) Were all departures from standard conditions described in an exception report?			X		
R2	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample detection limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			X		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			X		
		8) Were bulk soils/solids samples for volatile analysis extracted with methanol per EPA Method 5035?			X		
		9) If required for the project, TICs reported?			X		
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?			X		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < MDL?	X				
		5) For analyte(s) detected in a blank sample, was the concentration, unadjusted for sample specific factors, in all associated field samples, **greater** than 10 times the concentration in the blank sample?			X		
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		6) Was the LCSD RPD within QC limits (if applicable)?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?	X				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		4) Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?			X		
		2) Were analytical duplicates analyzed at the appropriate frequency?			X		
		3) Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?			X		
		2) Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	X				
		3) Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: OGSES-ACM Sampling	**LRC Date:** 7/11/24
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2406193
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC Section 5.5.10)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?	X				
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5 – Appendix C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chapter 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Signature Page – RG-366/TRRP-13

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;
R2 Sample identification cross-reference;
R3 Test reports (analytical data sheets) for each environmental sample that includes:
  a) Items consistent with NELAC Chapter 5,
  b) dilution factors,
  c) preparation methods,
  d) cleanup methods, and
  e) if required for the project, tentatively identified compounds (TICs).
R4 Surrogate recovery data including:
  a) Calculated recovery (%R), and
  b) The laboratory's surrogate QC limits.
R5 Test reports/summary forms for blank samples;
R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  a) LCS spiking amounts,
  b) Calculated %R for each analyte, and
  c) The laboratory's LCS QC limits.
R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  a) Samples associated with the MS/MSD clearly identified,
  b) MS/MSD spiking amounts,
  c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  d) Calculated %Rs and relative percent differences (RPDs), and
  e) The laboratory's MS/MSD QC limits
R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  a) The amount of analyte measured in the duplicate,
  b) The calculated RPD, and
  c) The laboratory's QC limits for analytical duplicates.
R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory is not accredited under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information or data affecting the quality of the data has been knowingly withheld.

This laboratory was last inspected by TCEQ on May 30 - June 2, 2023. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name: John DuPont
Official Title: General Manager

Signature

07/11/24
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *11-Jul-24*

CLIENT: BBA Engineering
Project: OGSES-ACM Sampling
Lab Order: 2406193

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020B - Metals Analysis
Method SW7470A - Mercury Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM7500 Ra B M. Analyzed at Pace Analytical.

Exception Report R1-01

The samples were received and log-in performed on 6/19/24. A total of 5 samples were received. The samples arrived in good condition and were properly packaged.

DHL Analytical, Inc.

Date: *11-Jul-24*

CLIENT: BBA Engineering
Project: OGSES-ACM Sampling
Lab Order: 2406193

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2406193-01	FGD-A POND		06/17/24 10:00 AM	06/19/2024
2406193-02	FGD-6		06/18/24 08:00 AM	06/19/2024
2406193-03	FGD-4		06/18/24 08:45 AM	06/19/2024
2406193-04	FGD-3		06/18/24 10:00 AM	06/19/2024
2406193-05	FGD-2		06/18/24 11:05 AM	06/19/2024

Lab Order: 2406193
Client: BBA Engineering
Project: OGSES-ACM Sampling

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2406193-01A	FGD-A POND	06/17/24 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/24 07:03 AM	115927
	FGD-A POND	06/17/24 10:00 AM	Aqueous	SW7470A	Mercury Aq Prep	06/21/24 09:51 AM	115933
2406193-02A	FGD-6	06/18/24 08:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/24 07:03 AM	115927
	FGD-6	06/18/24 08:00 AM	Aqueous	SW7470A	Mercury Aq Prep	06/21/24 09:51 AM	115933
2406193-03A	FGD-4	06/18/24 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/24 07:03 AM	115927
	FGD-4	06/18/24 08:45 AM	Aqueous	SW7470A	Mercury Aq Prep	06/21/24 09:51 AM	115933
2406193-04A	FGD-3	06/18/24 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/24 07:03 AM	115927
	FGD-3	06/18/24 10:00 AM	Aqueous	SW7470A	Mercury Aq Prep	06/21/24 09:51 AM	115933
2406193-05A	FGD-2	06/18/24 11:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/24 07:03 AM	115927
	FGD-2	06/18/24 11:05 AM	Aqueous	SW7470A	Mercury Aq Prep	06/21/24 09:51 AM	115933

Lab Order: 2406193
Client: BBA Engineering
Project: OGSES-ACM Sampling

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2406193-01A	FGD-A POND	Aqueous	SW7470A	Mercury Total: Aqueous	115933	1	06/24/24 09:39 AM	CETAC2_HG_240624A
	FGD-A POND	Aqueous	SW6020B	Total Metals: ICP-MS - Water	115927	1	06/24/24 12:44 PM	ICP-MS5_240624C
2406193-02A	FGD-6	Aqueous	SW7470A	Mercury Total: Aqueous	115933	1	06/24/24 09:42 AM	CETAC2_HG_240624A
	FGD-6	Aqueous	SW6020B	Total Metals: ICP-MS - Water	115927	1	06/24/24 12:47 PM	ICP-MS5_240624C
2406193-03A	FGD-4	Aqueous	SW7470A	Mercury Total: Aqueous	115933	1	06/24/24 09:44 AM	CETAC2_HG_240624A
	FGD-4	Aqueous	SW6020B	Total Metals: ICP-MS - Water	115927	1	06/24/24 12:49 PM	ICP-MS5_240624C
2406193-04A	FGD-3	Aqueous	SW7470A	Mercury Total: Aqueous	115933	1	06/24/24 09:46 AM	CETAC2_HG_240624A
	FGD-3	Aqueous	SW6020B	Total Metals: ICP-MS - Water	115927	1	06/24/24 12:52 PM	ICP-MS5_240624C
2406193-05A	FGD-2	Aqueous	SW7470A	Mercury Total: Aqueous	115933	1	06/24/24 09:48 AM	CETAC2_HG_240624A
	FGD-2	Aqueous	SW6020B	Total Metals: ICP-MS - Water	115927	1	06/24/24 12:55 PM	ICP-MS5_240624C

DHL Analytical, Inc.

Date: *11-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-A POND
Project:	OGSES-ACM Sampling	**Lab ID:**	2406193-01
Project No:	23643V-23	**Collection Date:**	06/17/24 10:00 AM
Lab Order:	2406193	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	0.00336	0.000800	0.00250		mg/L	1	06/24/24 12:44 PM
Arsenic	0.00278	0.00200	0.00500	J	mg/L	1	06/24/24 12:44 PM
Barium	0.225	0.00300	0.0100		mg/L	1	06/24/24 12:44 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:44 PM
Cadmium	0.000686	0.000300	0.00100	J	mg/L	1	06/24/24 12:44 PM
Chromium	0.0512	0.00200	0.00500		mg/L	1	06/24/24 12:44 PM
Cobalt	0.0192	0.00300	0.00500		mg/L	1	06/24/24 12:44 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:44 PM
Lithium	0.157	0.00500	0.0100		mg/L	1	06/24/24 12:44 PM
Molybdenum	0.0739	0.00200	0.00500		mg/L	1	06/24/24 12:44 PM
Selenium	0.722	0.00200	0.00500		mg/L	1	06/24/24 12:44 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/24/24 12:44 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	0.000201	0.0000800	0.000200		mg/L	1	06/24/24 09:39 AM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *11-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-6
Project:	OGSES-ACM Sampling	**Lab ID:**	2406193-02
Project No:	23643V-23	**Collection Date:**	06/18/24 08:00 AM
Lab Order:	2406193	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	0.000825	0.000800	0.00250	J	mg/L	1	06/24/24 12:47 PM
Arsenic	0.0271	0.00200	0.00500		mg/L	1	06/24/24 12:47 PM
Barium	0.0182	0.00300	0.0100		mg/L	1	06/24/24 12:47 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:47 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:47 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/24/24 12:47 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/24/24 12:47 PM
Lead	0.000642	0.000300	0.00100	J	mg/L	1	06/24/24 12:47 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	06/24/24 12:47 PM
Molybdenum	0.0259	0.00200	0.00500		mg/L	1	06/24/24 12:47 PM
Selenium	0.00528	0.00200	0.00500		mg/L	1	06/24/24 12:47 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/24/24 12:47 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	0.000121	0.0000800	0.000200	J	mg/L	1	06/24/24 09:42 AM

Qualifiers:

- ND - Not Detected at the SDL
- J - Analyte detected between SDL and RL
- B - Analyte detected in the associated Method Blank
- DF- Dilution Factor
- N - Parameter not NELAP certified
- See Final Page of Report for MQLs and MDLs
- S - Spike Recovery outside control limits
- C - Sample Result or QC discussed in Case Narrative
- RL - Reporting Limit (MQL adjusted for moisture and sample size)
- SDL - Sample Detection Limit
- E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *11-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-4
Project:	OGSES-ACM Sampling	**Lab ID:**	2406193-03
Project No:	23643V-23	**Collection Date:**	06/18/24 08:45 AM
Lab Order:	2406193	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/24/24 12:49 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/24/24 12:49 PM
Barium	0.0898	0.00300	0.0100		mg/L	1	06/24/24 12:49 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:49 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:49 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/24/24 12:49 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/24/24 12:49 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:49 PM
Lithium	0.00905	0.00500	0.0100	J	mg/L	1	06/24/24 12:49 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/24/24 12:49 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/24/24 12:49 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/24/24 12:49 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/24/24 09:44 AM

Qualifiers:

- ND - Not Detected at the SDL
- J - Analyte detected between SDL and RL
- B - Analyte detected in the associated Method Blank
- DF- Dilution Factor
- N - Parameter not NELAP certified
- See Final Page of Report for MQLs and MDLs
- S - Spike Recovery outside control limits
- C - Sample Result or QC discussed in Case Narrative
- RL - Reporting Limit (MQL adjusted for moisture and sample size)
- SDL - Sample Detection Limit
- E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *11-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-3
Project:	OGSES-ACM Sampling	**Lab ID:**	2406193-04
Project No:	23643V-23	**Collection Date:**	06/18/24 10:00 AM
Lab Order:	2406193	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/24/24 12:52 PM
Arsenic	0.00215	0.00200	0.00500	J	mg/L	1	06/24/24 12:52 PM
Barium	0.0321	0.00300	0.0100		mg/L	1	06/24/24 12:52 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:52 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:52 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/24/24 12:52 PM
Cobalt	0.00406	0.00300	0.00500	J	mg/L	1	06/24/24 12:52 PM
Lead	0.000367	0.000300	0.00100	J	mg/L	1	06/24/24 12:52 PM
Lithium	0.0342	0.00500	0.0100		mg/L	1	06/24/24 12:52 PM
Molybdenum	0.00335	0.00200	0.00500	J	mg/L	1	06/24/24 12:52 PM
Selenium	0.00520	0.00200	0.00500		mg/L	1	06/24/24 12:52 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/24/24 12:52 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/24/24 09:46 AM

Qualifiers:

- ND - Not Detected at the SDL
- J - Analyte detected between SDL and RL
- B - Analyte detected in the associated Method Blank
- DF- Dilution Factor
- N - Parameter not NELAP certified
- See Final Page of Report for MQLs and MDLs
- S - Spike Recovery outside control limits
- C - Sample Result or QC discussed in Case Narrative
- RL - Reporting Limit (MQL adjusted for moisture and sample size)
- SDL - Sample Detection Limit
- E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *11-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-2
Project:	OGSES-ACM Sampling	**Lab ID:**	2406193-05
Project No:	23643V-23	**Collection Date:**	06/18/24 11:05 AM
Lab Order:	2406193	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/24/24 12:55 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/24/24 12:55 PM
Barium	0.0833	0.00300	0.0100		mg/L	1	06/24/24 12:55 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:55 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:55 PM
Chromium	0.00501	0.00200	0.00500		mg/L	1	06/24/24 12:55 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/24/24 12:55 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/24/24 12:55 PM
Lithium	0.0236	0.00500	0.0100		mg/L	1	06/24/24 12:55 PM
Molybdenum	0.00387	0.00200	0.00500	J	mg/L	1	06/24/24 12:55 PM
Selenium	0.0236	0.00200	0.00500		mg/L	1	06/24/24 12:55 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/24/24 12:55 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/24/24 09:48 AM

Qualifiers:

- ND - Not Detected at the SDL
- J - Analyte detected between SDL and RL
- B - Analyte detected in the associated Method Blank
- DF- Dilution Factor
- N - Parameter not NELAP certified
- See Final Page of Report for MQLs and MDLs
- S - Spike Recovery outside control limits
- C - Sample Result or QC discussed in Case Narrative
- RL - Reporting Limit (MQL adjusted for moisture and sample size)
- SDL - Sample Detection Limit
- E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *11-Jul-24*

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_240416A

Sample ID: **DCS-114968**	Batch ID: **114968**	TestNo: **SW7470A**	Units: **mg/L**		
SampType: **DCS**	Run ID: **CETAC2_HG_240416A**	Analysis Date: **4/16/2024 10:05:58 AM**	Prep Date: **4/15/2024**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000189	0.000200	0.000200	0	94.5	82	119	0	0	

Qualifiers:	B	Analyte detected in the associated Method Blank	DF	Dilution Factor	
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit	
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits	
	RL	Reporting Limit	S	Spike Recovery outside control limits	
	J	Analyte detected between SDL and RL	N	Parameter not NELAP certified	

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_240624A

The QC data in batch 115933 applies to the following samples: 2406193-01A, 2406193-02A, 2406193-03A, 2406193-04A, 2406193-05A

Sample ID: **MB-115933**	Batch ID: **115933**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MBLK**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:14:57 AM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID: **LCS-115933**	Batch ID: **115933**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **LCS**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:19:28 AM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00193	0.000200	0.00200	0	96.5	85	115			

Sample ID: **LCSD-115933**	Batch ID: **115933**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **LCSD**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:21:45 AM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00176	0.000200	0.00200	0	88.0	85	115	9.21	15	

Sample ID: **2406213-01AMS**	Batch ID: **115933**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MS**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:30:47 AM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00855	0.00100	0.0100	0	85.5	80	120			

Sample ID: **2406213-01AMSD**	Batch ID: **115933**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MSD**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:33:03 AM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00945	0.00100	0.0100	0	94.5	80	120	10.0	15	

Sample ID: **2406213-01ASD**	Batch ID: **115933**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **SD**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:35:20 AM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.00200	0.00500	0	0				0	10	

Sample ID: **2406213-01APDS**	Batch ID: **115933**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **PDS**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:37:35 AM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0121	0.00100	0.0125	0	96.4	85	115			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_240624A

Sample ID: **ICV-240624**	Batch ID: **R133717**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **ICV**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:10:23 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00394	0.000200	0.00400	0	98.5	90	110			

Sample ID: **CCV1-240624**	Batch ID: **R133717**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_240624A**	Analysis Date: **6/24/2024 9:58:55 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00208	0.000200	0.00200	0	104	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_240606A

Sample ID: **DCS1-115670**	Batch ID: **115670**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS5_240606A**	Analysis Date: **6/6/2024 10:16:00 AM**	Prep Date: **6/5/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.000866	0.00250	0.00100	0	86.6	70	130	0	0	
Beryllium	0.000511	0.00100	0.000500	0	102	70	130	0	0	
Cadmium	0.000503	0.00100	0.000500	0	101	70	130	0	0	
Lead	0.000485	0.00100	0.000500	0	97.0	70	130	0	0	
Thallium	0.000538	0.00150	0.000500	0	108	70	130	0	0	

Sample ID: **DCS3-115670**	Batch ID: **115670**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS3**	Run ID: **ICP-MS5_240606A**	Analysis Date: **6/6/2024 10:22:00 AM**	Prep Date: **6/5/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00487	0.00500	0.00500	0	97.4	70	130	0	0	
Barium	0.00503	0.0100	0.00500	0	101	70	130	0	0	
Chromium	0.00496	0.00500	0.00500	0	99.2	70	130	0	0	
Cobalt	0.00489	0.00500	0.00500	0	97.8	70	130	0	0	
Lithium	0.00467	0.0100	0.00500	0	93.4	70	130	0	0	
Molybdenum	0.00496	0.00500	0.00500	0	99.3	70	130	0	0	
Selenium	0.00461	0.00500	0.00500	0	92.2	70	130	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_240624C

The QC data in batch 115927 applies to the following samples: 2406193-01A, 2406193-02A, 2406193-03A, 2406193-04A, 2406193-05A

Sample ID: **MB-115927** Batch ID: **115927** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 11:44:00 AM** Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID: **LCS-115927** Batch ID: **115927** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 11:46:00 AM** Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	99.2	80	120			
Arsenic	0.201	0.00500	0.200	0	100	80	120			
Barium	0.198	0.0100	0.200	0	99.2	80	120			
Beryllium	0.178	0.00100	0.200	0	89.2	80	120			
Cadmium	0.193	0.00100	0.200	0	96.7	80	120			
Chromium	0.199	0.00500	0.200	0	99.7	80	120			
Cobalt	0.202	0.00500	0.200	0	101	80	120			
Lead	0.193	0.00100	0.200	0	96.5	80	120			
Lithium	0.183	0.0100	0.200	0	91.4	80	120			
Molybdenum	0.193	0.00500	0.200	0	96.5	80	120			
Selenium	0.199	0.00500	0.200	0	99.4	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Sample ID: **LCSD-115927** Batch ID: **115927** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 11:51:00 AM** Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.5	80	120	1.79	15	
Arsenic	0.198	0.00500	0.200	0	99.1	80	120	1.19	15	
Barium	0.196	0.0100	0.200	0	97.8	80	120	1.38	15	
Beryllium	0.180	0.00100	0.200	0	90.2	80	120	1.16	15	
Cadmium	0.191	0.00100	0.200	0	95.4	80	120	1.36	15	
Chromium	0.198	0.00500	0.200	0	98.9	80	120	0.799	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_240624C

Sample ID: **LCSD-115927** Batch ID: **115927** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 11:51:00 AM** Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.200	0.00500	0.200	0	100	80	120	1.10	15	
Lead	0.193	0.00100	0.200	0	96.3	80	120	0.208	15	
Lithium	0.185	0.0100	0.200	0	92.7	80	120	1.41	15	
Molybdenum	0.190	0.00500	0.200	0	95.1	80	120	1.50	15	
Selenium	0.199	0.00500	0.200	0	99.4	80	120	0.011	15	
Thallium	0.203	0.00150	0.200	0	101	80	120	0.262	15	

Sample ID: **2406218-02B SD** Batch ID: **115927** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 11:58:00 AM** Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	20	
Arsenic	<0.0100	0.0250	0	0				0	20	
Barium	0.0558	0.0500	0	0.0570				2.05	20	
Beryllium	<0.00150	0.00500	0	0				0	20	
Cadmium	<0.00150	0.00500	0	0				0	20	
Chromium	<0.0100	0.0250	0	0				0	20	
Cobalt	<0.0150	0.0250	0	0				0	20	
Lead	<0.00150	0.00500	0	0				0	20	
Lithium	<0.0250	0.0500	0	0.00552				0	20	
Molybdenum	<0.0100	0.0250	0	0				0	20	
Selenium	<0.0100	0.0250	0	0				0	20	
Thallium	<0.00250	0.00750	0	0				0	20	

Sample ID: **2406218-02B PDS** Batch ID: **115927** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 12:26:00 PM** Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.172	0.00250	0.200	0	86.0	75	125			
Arsenic	0.190	0.00500	0.200	0	95.0	75	125			
Barium	0.249	0.0100	0.200	0.0570	96.0	75	125			
Beryllium	0.178	0.00100	0.200	0	88.8	75	125			
Cadmium	0.191	0.00100	0.200	0	95.5	75	125			
Chromium	0.199	0.00500	0.200	0	99.5	75	125			
Cobalt	0.194	0.00500	0.200	0	96.9	75	125			
Lead	0.193	0.00100	0.200	0	96.6	75	125			
Lithium	0.197	0.0100	0.200	0.00552	95.9	75	125			
Molybdenum	0.188	0.00500	0.200	0	94.2	75	125			
Selenium	0.193	0.00500	0.200	0	96.7	75	125			
Thallium	0.206	0.00150	0.200	0	103	75	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_240624C

Sample ID: **2406218-02B MS**	Batch ID: **115927**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MS**	Run ID: **ICP-MS5_240624C**	Analysis Date: **6/24/2024 12:29:00 PM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	98.8	75	125			
Arsenic	0.193	0.00500	0.200	0	96.3	75	125			
Barium	0.250	0.0100	0.200	0.0570	96.5	75	125			
Beryllium	0.179	0.00100	0.200	0	89.6	75	125			
Cadmium	0.188	0.00100	0.200	0	94.0	75	125			
Chromium	0.197	0.00500	0.200	0	98.5	75	125			
Cobalt	0.193	0.00500	0.200	0	96.5	75	125			
Lead	0.192	0.00100	0.200	0	95.9	75	125			
Lithium	0.196	0.0100	0.200	0.00552	95.0	75	125			
Molybdenum	0.192	0.00500	0.200	0	95.8	75	125			
Selenium	0.194	0.00500	0.200	0	97.0	75	125			
Thallium	0.205	0.00150	0.200	0	102	75	125			

Sample ID: **2406218-02B MSD**	Batch ID: **115927**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS5_240624C**	Analysis Date: **6/24/2024 12:31:00 PM**	Prep Date: **6/21/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.192	0.00250	0.200	0	96.0	75	125	2.85	15	
Arsenic	0.194	0.00500	0.200	0	96.8	75	125	0.485	15	
Barium	0.250	0.0100	0.200	0.0570	96.4	75	125	0.140	15	
Beryllium	0.181	0.00100	0.200	0	90.6	75	125	1.12	15	
Cadmium	0.188	0.00100	0.200	0	94.0	75	125	0.044	15	
Chromium	0.199	0.00500	0.200	0	99.4	75	125	0.895	15	
Cobalt	0.195	0.00500	0.200	0	97.3	75	125	0.826	15	
Lead	0.192	0.00100	0.200	0	95.8	75	125	0.042	15	
Lithium	0.198	0.0100	0.200	0.00552	96.1	75	125	1.06	15	
Molybdenum	0.191	0.00500	0.200	0	95.4	75	125	0.426	15	
Selenium	0.193	0.00500	0.200	0	96.3	75	125	0.752	15	
Thallium	0.205	0.00150	0.200	0	102	75	125	0.038	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_240624C

Sample ID: **ICV-240624**	Batch ID: **R133740**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS5_240624C**	Analysis Date: **6/24/2024 9:31:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.102	0.00250	0.100	0	102	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.103	0.0100	0.100	0	103	90	110			
Beryllium	0.0991	0.00100	0.100	0	99.1	90	110			
Cadmium	0.103	0.00100	0.100	0	103	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.105	0.00500	0.100	0	105	90	110			
Lead	0.101	0.00100	0.100	0	101	90	110			
Lithium	0.0999	0.0100	0.100	0	99.9	90	110			
Molybdenum	0.0991	0.00500	0.100	0	99.1	90	110			
Selenium	0.103	0.00500	0.100	0	103	90	110			
Thallium	0.0988	0.00150	0.100	0	98.8	90	110			

Sample ID: **LCVL-240624**	Batch ID: **R133740**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS5_240624C**	Analysis Date: **6/24/2024 9:37:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00208	0.00250	0.00200	0	104	80	120			
Arsenic	0.00530	0.00500	0.00500	0	106	80	120			
Barium	0.00518	0.0100	0.00500	0	104	80	120			
Beryllium	0.00105	0.00100	0.00100	0	105	80	120			
Cadmium	0.00111	0.00100	0.00100	0	110	80	120			
Chromium	0.00538	0.00500	0.00500	0	108	80	120			
Cobalt	0.00541	0.00500	0.00500	0	108	80	120			
Lead	0.00106	0.00100	0.00100	0	106	80	120			
Lithium	0.00970	0.0100	0.0100	0	97.0	80	120			
Molybdenum	0.00531	0.00500	0.00500	0	106	80	120			
Selenium	0.00555	0.00500	0.00500	0	111	80	120			
Thallium	0.00103	0.00150	0.00100	0	103	80	120			

Sample ID: **CCV3-240624**	Batch ID: **R133740**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_240624C**	Analysis Date: **6/24/2024 11:38:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	98.9	90	110			
Arsenic	0.203	0.00500	0.200	0	102	90	110			
Barium	0.198	0.0100	0.200	0	98.8	90	110			
Beryllium	0.184	0.00100	0.200	0	92.1	90	110			
Cadmium	0.195	0.00100	0.200	0	97.6	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.205	0.00500	0.200	0	102	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_240624C

Sample ID: **CCV3-240624** Batch ID: **R133740** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 11:38:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.197	0.00100	0.200	0	98.4	90	110			
Lithium	0.189	0.0100	0.200	0	94.3	90	110			
Molybdenum	0.194	0.00500	0.200	0	96.9	90	110			
Selenium	0.203	0.00500	0.200	0	101	90	110			
Thallium	0.208	0.00150	0.200	0	104	90	110			

Sample ID: **CCV4-240624** Batch ID: **R133740** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 12:34:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.5	90	110			
Arsenic	0.203	0.00500	0.200	0	102	90	110			
Barium	0.198	0.0100	0.200	0	99.0	90	110			
Beryllium	0.190	0.00100	0.200	0	95.0	90	110			
Cadmium	0.196	0.00100	0.200	0	97.9	90	110			
Chromium	0.201	0.00500	0.200	0	101	90	110			
Cobalt	0.207	0.00500	0.200	0	103	90	110			
Lead	0.196	0.00100	0.200	0	97.9	90	110			
Lithium	0.196	0.0100	0.200	0	97.9	90	110			
Molybdenum	0.195	0.00500	0.200	0	97.5	90	110			
Selenium	0.207	0.00500	0.200	0	103	90	110			
Thallium	0.205	0.00150	0.200	0	102	90	110			

Sample ID: **CCV5-240624** Batch ID: **R133740** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_240624C** Analysis Date: **6/24/2024 12:57:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.194	0.00250	0.200	0	96.9	90	110			
Arsenic	0.195	0.00500	0.200	0	97.4	90	110			
Barium	0.194	0.0100	0.200	0	96.8	90	110			
Beryllium	0.192	0.00100	0.200	0	95.9	90	110			
Cadmium	0.191	0.00100	0.200	0	95.5	90	110			
Chromium	0.199	0.00500	0.200	0	99.7	90	110			
Cobalt	0.201	0.00500	0.200	0	101	90	110			
Lead	0.193	0.00100	0.200	0	96.3	90	110			
Lithium	0.200	0.0100	0.200	0	100	90	110			
Molybdenum	0.189	0.00500	0.200	0	94.3	90	110			
Selenium	0.202	0.00500	0.200	0	101	90	110			
Thallium	0.205	0.00150	0.200	0	102	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

DHL Analytical, Inc.

Date: *11-Jul-24*

CLIENT: BBA Engineering
Work Order: 2406193
Project: OGSES-ACM Sampling

MQL SUMMARY REPORT

TestNo: SW6020B	MDL	MQL
Analyte	**mg/L**	**mg/L**
Antimony	0.000800	0.00250
Arsenic	0.00200	0.00500
Barium	0.00300	0.0100
Beryllium	0.000300	0.00100
Cadmium	0.000300	0.00100
Chromium	0.00200	0.00500
Cobalt	0.00300	0.00500
Lead	0.000300	0.00100
Lithium	0.00500	0.0100
Molybdenum	0.00200	0.00500
Selenium	0.00200	0.00500
Thallium	0.000500	0.00150

TestNo: SW7470A	MDL	MQL
Analyte	**mg/L**	**mg/L**
Mercury	0.0000800	0.000200

Qualifiers: MQL -Method Quantitation Limit as defined by TRRP
MDL -Method Detection Limit as defined by TRRP

ANALYTICAL REPORT

July 10, 2024

DHL Analytical, Inc.

Sample Delivery Group:	L1749551
Samples Received:	06/21/2024
Project Number:	
Description:	

Report To: John DuPont
2300 Double Creek Drive
Round Rock, TX 78664

Entire Report Reviewed By:

Donna Eidson
Project Manager

TABLE OF CONTENTS

FGD-A POND L1749551-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/17/24 10:00	06/21/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2312765	1	06/26/24 21:54	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2311203	1	06/26/24 10:15	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2311203	1	06/26/24 10:15	06/28/24 17:49	ZRG	Mt. Juliet, TN

FGD-6 L1749551-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/18/24 08:00	06/21/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2312765	1	06/26/24 21:54	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2311203	1	06/26/24 10:15	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2311203	1	06/26/24 10:15	06/28/24 17:49	ZRG	Mt. Juliet, TN

FGD-4 L1749551-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/18/24 08:45	06/21/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2312765	1	06/26/24 21:54	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2311203	1	06/26/24 10:15	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2311203	1	06/26/24 10:15	06/28/24 17:49	ZRG	Mt. Juliet, TN

FGD-3 L1749551-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/18/24 10:00	06/21/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2312765	1	06/26/24 21:54	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2311203	1	06/26/24 10:15	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2311203	1	06/26/24 10:15	06/28/24 17:49	ZRG	Mt. Juliet, TN

FGD-2 L1749551-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/18/24 11:05	06/21/24 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2312765	1	06/26/24 21:54	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2311203	1	06/26/24 10:15	07/04/24 16:21	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2311203	1	06/26/24 10:15	06/28/24 17:49	ZRG	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Donna Eidson
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.597		0.324	0.423	0.578	0.304	07/04/2024 16:21	WG2312765
(T) Barium	*105*					*30.0-143*	*07/04/2024 16:21*	WG2312765
(T) Yttrium	*102*					*30.0-136*	*07/04/2024 16:21*	WG2312765

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.17		0.453	0.613	07/04/2024 16:21	WG2311203

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.569		0.317	0.449	0.205	0.169	06/28/2024 17:49	WG2311203
(T) Barium-133	*86.7*					*30.0-143*	*06/28/2024 17:49*	WG2311203

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.966		0.504	0.609	0.901	0.477	07/04/2024 16:21	WG2312765
(T) Barium	*105*					*30.0-143*	*07/04/2024 16:21*	WG2312765
(T) Yttrium	*90.9*					*30.0-136*	*07/04/2024 16:21*	WG2312765

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.28		0.559	0.937	07/04/2024 16:21	WG2311203

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.313		0.242	0.356	0.258	0.188	06/28/2024 17:49	WG2311203
(T) Barium-133	*104*					*30.0-143*	*06/28/2024 17:49*	WG2311203

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.32		0.262	0.371	0.438	0.231	07/04/2024 16:21	WG2312765
(T) Barium	*101*					*30.0-143*	*07/04/2024 16:21*	WG2312765
(T) Yttrium	*83.3*					*30.0-136*	*07/04/2024 16:21*	WG2312765

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	3.04		0.609	0.571	07/04/2024 16:21	WG2311203

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	2 sigma CE	TPU	MDA	Lc	Analysis Date	Batch
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	1.71		0.550	0.685	0.366	0.244	06/28/2024 17:49	WG2311203
(T) Barium-133	*83.8*					*30.0-143*	*06/28/2024 17:49*	WG2311203

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.343	J	0.286	0.385	0.519	0.274	07/04/2024 16:21	WG2312765
(T) Barium	*105*					*30.0-143*	*07/04/2024 16:21*	WG2312765
(T) Yttrium	*101*					*30.0-136*	*07/04/2024 16:21*	WG2312765

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.11		0.537	0.682	07/04/2024 16:21	WG2311203

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.765		0.454	0.603	0.442	0.304	06/28/2024 17:49	WG2311203
(T) Barium-133	*71.5*					*30.0-143*	*06/28/2024 17:49*	WG2311203

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.475		0.245	0.348	0.437	0.230	07/04/2024 16:21	WG2312765
(T) Barium	*111*					*30.0-143*	*07/04/2024 16:21*	WG2312765
(T) Yttrium	*93.8*					*30.0-136*	*07/04/2024 16:21*	WG2312765

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.11		0.424	0.501	07/04/2024 16:21	WG2311203

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	2 sigma CE + / -	TPU + / -	MDA pCi/l	Lc pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.632		0.346	0.485	0.245	0.193	06/28/2024 17:49	WG2311203
(T) Barium-133	*81.5*					*30.0-143*	*06/28/2024 17:49*	WG2311203

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4091311-1 07/04/24 16:21

Analyte	MB Result	MB Qualifier	MB 2 sigma CE	MB MDA	MB Lc
	pCi/l		+ / -	pCi/l	pCi/l
Radium-228	-0.157	U	0.186	0.349	0.183
(T) Barium	*105*		*105*		
(T) Yttrium	*92.0*		*92.0*		

L1750514-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1750514-01 07/04/24 16:21 • (DUP) R4091311-5 07/04/24 16:21

Analyte	Original Result	Original 2 sigma CE	Original MDA	Original Lc	DUP Result	DUP 2 sigma CE	DUP MDA	DUP Lc	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	pCi/l	+ / -	pCi/l	pCi/l	%			%	
Radium-228	430	2.44	0.778	0.406	397	2.20	0.569	0.300	7.98	10.0		20	3
(T) Barium	*629*				*684*	*684*					C1		
(T) Yttrium	*87.0*				*109*	*109*							

Laboratory Control Sample (LCS)

(LCS) R4091311-2 07/04/24 16:21

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	10.0	8.64	86.4	80.0-120	
(T) Barium			*99.4*		
(T) Yttrium			*103*		

L1749536-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749536-11 07/04/24 16:21 • (MS) R4091311-3 07/04/24 16:21 • (MSD) R4091311-4 07/04/24 16:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	33.3	-1.94	37.7	41.4	113	124	1	70.0-130			9.13		20
(T) Barium		*103*			*108*	*112*							
(T) Yttrium		*90.3*			*94.0*	*79.5*							

Method Blank (MB)

(MB) R4088698-1 06/28/24 17:48

Analyte	MB Result pCi/l	MB Qualifier	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-226	-0.0240	U	0.0894	0.189	0.125
(T) Barium-133	*48.8*		*48.8*		

L1749590-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1749590-02 06/28/24 17:49 • (DUP) R4088698-5 06/28/24 17:48

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.0540	0.102	0.178	0.140	0.139	0.203	0.306	0.223	88.2	0.375	J	20	3
(T) Barium-133	*93.3*				*85.0*	*85.0*							

Laboratory Control Sample (LCS)

(LCS) R4088698-2 06/28/24 17:48

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.00	5.73	115	75.0-125	
(T) Barium-133			*68.6*		

L1749536-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1749536-11 06/28/24 17:48 • (MS) R4088698-3 06/28/24 17:48 • (MSD) R4088698-4 06/28/24 17:48

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.750	20.9	20.8	101	100	1	75.0-125			0.287		20
(T) Barium-133		*77.1*			*69.7*	*72.4*							

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C1	Tracer recovery limits have been exceeded; values are outside upper control limits.
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

DHL Analytical, Inc.
2300 Double Creek Drive
Round Rock, TX 78664
TEL: *(512) 388-8222* FAX:

CHAIN-OF-CUSTODY RECORD

C193

Work Order: 2406193

Subcontractor:

Pace Analytical
12065 Lebanon Rd
Mt. Juliet, TN 37122

TEL: (615) 773-5923
FAX:
Acct #: DHLRRTX

L749551

19-Jun-24

Sample ID	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					Ra-228 E904.0	Ra-226 M7500 Ra B M				
FGD-A POND	Aqueous	01B	06/17/24 10:00 AM	1LHDPEHNO3		1				J-01
FGD-A POND	Aqueous	01C	06/17/24 10:00 AM	1LHDPEHNO3	1					
FGD-6	Aqueous	02B	06/18/24 08:00 AM	1LHDPEHNO3		1				J-02
FGD-6	Aqueous	02C	06/18/24 08:00 AM	1LHDPEHNO3	1					
FGD-4	Aqueous	03B	06/18/24 08:45 AM	1LHDPEHNO3		1				J-03
FGD-4	Aqueous	03C	06/18/24 08:45 AM	1LHDPEHNO3	1					
FGD-3	Aqueous	04B	06/18/24 10:00 AM	1LHDPEHNO3		1				J-04
FGD-3	Aqueous	04C	06/18/24 10:00 AM	1LHDPEHNO3	1					
FGD-2	Aqueous	05B	06/18/24 11:05 AM	1LHDPEHNO3		1				J-05
FGD-2	Aqueous	05C	06/18/24 11:05 AM	1LHDPEHNO3	1					

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres. Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N	EDA7 Amb	
RA Screen <0.5 mR/hr:	Y N		

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report Ra-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time		Date/Time
Relinquished by:	6/19/24 1700	Received by:	6/21/24 10:30
Relinquished by:		Received by:	

July 16, 2024

Will Vienne
BBA Engineering
165 N. Lampasas St.
Bertram, TX 78605
TEL: (512) 355-9198
FAX:

Order No.: 2407095

RE: OGSES-FGD-A-POND-ACM

Dear Will Vienne:

DHL Analytical, Inc. received 5 sample(s) on 7/11/2024 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAP except where noted in the Case Narrative. All non-NELAP methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211 - TX-C24-00120

Table of Contents

DHL ANALYTICAL
2300 Double Creek Dr. Round Rock, TX 78664
Phone 512.388.8222
Web: www.dhlanalytical.com
Email: login@dhlanalytical.com

CHAIN-OF-CUSTODY

CLIENT: BBA
ADDRESS: 165 N. LAMPASAS ST. BERTRAM, TX
PHONE: EMAIL:
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

DATE: 7-10-24
PO#: 23643V-23

LAB USE ONLY
DHL WORKORDER #: 2407095

PROJECT LOCATION OR NAME: OGSES- FGD-A-POND-ACM
CLIENT PROJECT # 23643V-23 COLLECTOR: JOHN BRAYDEN

Authorize 5% surcharge for TRRP report? ☐ Yes ☐ No

W=WATER L=LIQUID S=SOLID SO=SOLID SE=SEDIMENT P=PAINT SL=SLUDGE

Field Sample I.D.	Lab Use Only DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	PRESERVATION: HCL ☐	H_3PO_4 ☐	HNO_3	H_2SO_4	NaOH ☐	Zn Acetate ☐	ICE ☒	UNPRESERVED ☐	ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8260]	TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐	GRO 8015 ☐ DRO 8015 ☐	VOC 8260 ☐ VOC 624.1 ☐	SVOC 8270 ☐ SVOC 625.1 ☐	PAH 8270 ☐ HOLD PAH ☐	PEST 8270 ☐ 625.1 ☐ O-P PEST 8270 ☐	PCB 8082 ☐ 608.3 ☐ PCB 8270 ☐ 625.1 ☐	HERB 8321 ☐ T PHOS ☐ AMMONIA ☐	METALS 6020 ☐ 200.8 ☐ DISS. METALS ☐	RCRA 8 ☐ TX11 ☐ _____	pH☐ HEX CHROM☐ ALKALINITY☐ COD☐	ANIONS 300 ☐ 9056 ☐ _____	TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐	TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐	RCI ☐ IGN ☐ DGAS ☐ OIL&GREASE ☐	TDS ☐ TSS ☐ % MOIST ☐ CYANIDE ☐	FLUORIDE			FIELD NOTES
FGD-6	01	7-10-24	0745	W	P	1							X																			X			
FGD-4	02		0830	W	P	1							X																			X			
FGD-3	03		0920	W	P	1							X																			X			
FGD-2	04		1010	W	P	1							X																			X			
FGD-A-POND	05	↓	1030	W	P	1							X																			X			

Relinquished By: (Sign) DATE/TIME 7-10-24 1600 Received by: Fedex
Relinquished By: (Sign) DATE/TIME 7/11/24 0844 Received by:
Relinquished By: (Sign) DATE/TIME Received by:

TURN AROUND TIME (CALL FIRST FOR RUSH)
RUSH-1 DAY☐ RUSH-2 DAY☐ RUSH-3 DAY☐
NORMAL ☒ OTHER ☐
DUE DATE _____ ☐

LAB USE ONLY THERMO #: 78
RECEIVING TEMP (°C): 1.5°C
IF >6°C, ARE SAMPLES ON ICE AND JUST COLLECTED? YES / NO
CUSTODY SEALS ON ICE CHEST: ☐ BROKEN ☑ INTACT ☐ NOT USED
CARRIER: ☐ LSO ☑ FEDEX ☐ UPS ☐ COURIER ☐ HAND DELIVERED

☐ DHL DISPOSAL @ $10.00 each

ORIGIN ID:BSMA (512) 355-9198
JOHN BRAYTON
BULLOCK, BENNETT & ASSOCIATES
165 N. LAMPASAS STREET

BERTRAM, TX 78605
UNITED STATES US

SHIP DATE: 10JUL24
ACTWGT: 20.00 LB
CAD: 113203857/INET4535
DIMS: 10x12x12 IN

BILL SENDER

TO **DHL ANALYTICAL**

2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: 23643V-23 DEPT:

583J9/E0E4/9AE3

FedEx Express

J242024032691uv

THU - 11 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7773 2323 8178

78664

44 BSMA

TX-US AUS

DHL ANALYTICAL

CUSTODY SEAL
DATE 7-10-24
SIGNATURE

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name: **BBA Engineering**

Date Received: **7/11/2024**

Work Order Number: **2407095**

Received by: **KAO**

Checklist completed by: _____ 7/11/2024 (Signature / Date)

Reviewed by: SH 7/11/2024 (Initials / Date)

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑ NA ☐
Water - pH<2 acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Cooler #	1
Temp °C	1.5
Seal Intact	Y

Any No response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

DHL Analytical, Inc. **Date:** *16-Jul-24*

CLIENT: BBA Engineering
Project: OGSES-FGD-A-POND-ACM
Lab Order: 2407095

CASE NARRATIVE

Sample was analyzed using the methods outlined in the following references:

Method E300 - Anions Analysis

LOG IN

The samples were received and log-in performed on 7/11/2024. A total of 5 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

ANIONS ANALYSIS

For Anions Analysis, the recovery of Fluoride for the Matrix Spike and Matrix Spike Duplicate (2407095-05 MS/MSD) was below the method control limits. This is flagged accordingly in the QC Summary Report. This anion was within method control limits in the associated LCS. No further corrective action was taken.

DHL Analytical, Inc.

Date: *16-Jul-24*

CLIENT: BBA Engineering
Project: OGSES-FGD-A-POND-ACM
Lab Order: 2407095

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2407095-01	FGD-6		07/10/24 07:45 AM	07/11/2024
2407095-02	FGD-4		07/10/24 08:30 AM	07/11/2024
2407095-03	FGD-3		07/10/24 09:20 AM	07/11/2024
2407095-04	FGD-2		07/10/24 10:10 AM	07/11/2024
2407095-05	FGD-A-POND		07/10/24 10:30 AM	07/11/2024

Lab Order: 2407095
Client: BBA Engineering
Project: OGSES-FGD-A-POND-ACM

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2407095-01A	FGD-6	07/10/24 07:45 AM	Aqueous	E300	Anion Preparation	07/12/24 12:00 PM	116215
2407095-02A	FGD-4	07/10/24 08:30 AM	Aqueous	E300	Anion Preparation	07/12/24 12:00 PM	116215
2407095-03A	FGD-3	07/10/24 09:20 AM	Aqueous	E300	Anion Preparation	07/12/24 12:00 PM	116215
2407095-04A	FGD-2	07/10/24 10:10 AM	Aqueous	E300	Anion Preparation	07/12/24 12:00 PM	116215
2407095-05A	FGD-A-POND	07/10/24 10:30 AM	Aqueous	E300	Anion Preparation	07/12/24 12:00 PM	116215

Lab Order: 2407095
Client: BBA Engineering
Project: OGSES-FGD-A-POND-ACM

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2407095-01A	FGD-6	Aqueous	E300	Anions by IC method - Water	116215	1	07/12/24 06:49 PM	IC2_240712B
2407095-02A	FGD-4	Aqueous	E300	Anions by IC method - Water	116215	1	07/12/24 07:07 PM	IC2_240712B
2407095-03A	FGD-3	Aqueous	E300	Anions by IC method - Water	116215	1	07/12/24 07:25 PM	IC2_240712B
2407095-04A	FGD-2	Aqueous	E300	Anions by IC method - Water	116215	1	07/12/24 07:43 PM	IC2_240712B
2407095-05A	FGD-A-POND	Aqueous	E300	Anions by IC method - Water	116215	1	07/12/24 08:01 PM	IC2_240712B

DHL Analytical, Inc.

Date: *16-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-6
Project:	OGSES-FGD-A-POND-ACM	**Lab ID:**	2407095-01
Project No:	23643V-23	**Collection Date:**	07/10/24 07:45 AM
Lab Order:	2407095	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **KES**
Fluoride	0.709	0.100	0.400		mg/L	1	07/12/24 06:49 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
	DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
	S	Spike Recovery outside control limits	N	Parameter not NELAP certified

DHL Analytical, Inc.

Date: *16-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-4
Project:	OGSES-FGD-A-POND-ACM	**Lab ID:**	2407095-02
Project No:	23643V-23	**Collection Date:**	07/10/24 08:30 AM
Lab Order:	2407095	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **KES**
Fluoride	0.348	0.100	0.400	J	mg/L	1	07/12/24 07:07 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
	DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
	S	Spike Recovery outside control limits	N	Parameter not NELAP certified

DHL Analytical, Inc.

Date: *16-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-3
Project:	OGSES-FGD-A-POND-ACM	**Lab ID:**	2407095-03
Project No:	23643V-23	**Collection Date:**	07/10/24 09:20 AM
Lab Order:	2407095	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **KES**
Fluoride	0.970	0.100	0.400		mg/L	1	07/12/24 07:25 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level		C	Sample Result or QC discussed in the Case Narrative
	DF	Dilution Factor		E	TPH pattern not Gas or Diesel Range Pattern
	J	Analyte detected between MDL and RL		MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit		RL	Reporting Limit
	S	Spike Recovery outside control limits		N	Parameter not NELAP certified

DHL Analytical, Inc.

Date: *16-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-2
Project:	OGSES-FGD-A-POND-ACM	**Lab ID:**	2407095-04
Project No:	23643V-23	**Collection Date:**	07/10/24 10:10 AM
Lab Order:	2407095	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **KES**
Fluoride	<0.100	0.100	0.400		mg/L	1	07/12/24 07:43 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
	DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
	S	Spike Recovery outside control limits	N	Parameter not NELAP certified

DHL Analytical, Inc.

Date: *16-Jul-24*

CLIENT:	BBA Engineering	**Client Sample ID:**	FGD-A-POND
Project:	OGSES-FGD-A-POND-ACM	**Lab ID:**	2407095-05
Project No:	23643V-23	**Collection Date:**	07/10/24 10:30 AM
Lab Order:	2407095	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **KES**
Fluoride	12.2	0.100	0.400		mg/L	1	07/12/24 08:01 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
	DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
	S	Spike Recovery outside control limits	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2407095
Project: OGSES-FGD-A-POND-ACM

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_240712B

The QC data in batch 116215 applies to the following samples: 2407095-01A, 2407095-02A, 2407095-03A, 2407095-04A, 2407095-05A

Sample ID: **MB-116215** Batch ID: **116215** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_240712B** Analysis Date: **7/12/2024 10:54:13 AM** Prep Date: **7/12/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	<0.100	0.400								

Sample ID: **LCS-116215** Batch ID: **116215** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_240712B** Analysis Date: **7/12/2024 11:12:13 AM** Prep Date: **7/12/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.21	0.400	4.000	0	105	90	110			

Sample ID: **LCSD-116215** Batch ID: **116215** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_240712B** Analysis Date: **7/12/2024 11:30:13 AM** Prep Date: **7/12/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.24	0.400	4.000	0	106	90	110	0.503	20	

Sample ID: **2407109-01AMS** Batch ID: **116215** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_240712B** Analysis Date: **7/12/2024 1:15:30 PM** Prep Date: **7/12/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	21.5	0.400	20.00	0.1170	107	90	110			

Sample ID: **2407109-01AMSD** Batch ID: **116215** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_240712B** Analysis Date: **7/12/2024 1:33:30 PM** Prep Date: **7/12/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	21.7	0.400	20.00	0.1170	108	90	110	1.01	20	

Sample ID: **2407095-05AMS** Batch ID: **116215** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_240712B** Analysis Date: **7/12/2024 8:19:15 PM** Prep Date: **7/12/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	28.1	0.400	20.00	12.24	79.4	90	110			S

Sample ID: **2407095-05AMSD** Batch ID: **116215** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_240712B** Analysis Date: **7/12/2024 8:37:15 PM** Prep Date: **7/12/2024**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	28.2	0.400	20.00	12.24	80.0	90	110	0.390	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

CLIENT: BBA Engineering
Work Order: 2407095
Project: OGSES-FGD-A-POND-ACM

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_240712B

Sample ID: **ICV-240712**	Batch ID: **R134047**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_240712B**	Analysis Date: **7/12/2024 10:18:13 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	10.9	0.400	10.00	0	109	90	110			

Sample ID: **CCV1-240712**	Batch ID: **R134047**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_240712B**	Analysis Date: **7/12/2024 6:13:15 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.31	0.400	4.000	0	108	90	110			

Sample ID: **CCV2-240712**	Batch ID: **R134047**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_240712B**	Analysis Date: **7/12/2024 10:43:15 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.40	0.400	4.000	0	110	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAP certified

APPENDIX C

APPENDIX III GROUNDWATER ANALYTICAL DATA SUMMARY

APPENDIX III ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Prediction Limit:		0.141	471	6,340	0.781	6.10 7.23	409	13,000
Upgradient Wells								
FGD-8	11/04/15	0.0843	69.2	271	0.173 J	6.92	24.4	803
	12/17/15	0.0791	65.2	248	0.361 J	6.67	50.1	721
	02/09/16	0.0721	296	1,910	0.331 J	6.14	110	5,100
	04/14/16	0.0805	323	1,920	0.218	6.39	68	6,210
	06/14/16	0.0869	336	2,070	<0.100	6.57	476	6,130
	08/24/16	0.119	21.1	107	0.186 J	6.92	41.6	400
	10/05/16	0.0794	394	1,890	0.413	6.68	184	4,470
	12/23/16	0.069	340	1,990	<0.100	6.83	144	4,330
	10/03/17	0.1	378	1,140	<0.100	6.83	9.72	2,550
	06/05/18	0.0826	409	2,180	<0.100	6.12	538	4,450
	09/06/18	0.635	395	2,330	0.362 J	5.93	670	4,910
	05/16/19	0.0687	314	2,040	<0.100	6.67	173	3,970
	08/19/19	0.0756	427	2,260	<0.100	6.89	452	4,600
	05/11/20	0.129	381	2,240	<0.100	6.69	188	4,090
	09/09/20	0.101	329	2,220	<0.100	6.87	58.9	3,890
	06/17/21	0.0816	353	2,230	<0.100	6.82	310	4,870
	10/11/21	0.0779	362	2,040	<0.100	6.49	63.9	3,790
	05/10/22	0.0983	377	1,880	0.112	6.87	65	3,790
	09/27/22	0.104	393	2170	<0.100	6.83	195	4440
	05/26/23	0.0894	373	2150	0.36	6.53	154	4350
	08/22/23	0.0938	388	2240	<0.100	6.65	206	4300
FGD-11	11/04/15	0.048	9.57	15	<0.100	6.58	9.96	145
	12/17/15	0.0544	10.7	9.85	0.13 J	6.74	11	115
	02/09/16	0.0912	71.5	438	0.548	6.9	37.5	1,160
	04/14/16	0.0963	72.5	393	0.671	6.34	32.9	1,120
	06/15/16	0.0979	55.1	356	0.331 J	6.57	32.4	900
	08/25/16	0.103	154	759	0.128 J	6.76	68.8	1,960
	10/04/16	0.127	181	894	0.579	6.78	71.8	2,130
	12/22/16	0.125	201	1,150	0.127 J	6.85	89.5	2,870
	10/03/17	0.155	254	1,830	<0.100	6.85	142	4,010
	06/05/18	0.162	170	954	0.836	6.28	82.2	2,240
	09/06/18	0.149	194	1,140	1.09	6.43	93.9	2,770
	05/16/19	0.108	85	566	0.38 J	6.83	50.9	1,350
	08/19/19	0.12	92.5	535	0.63	6.71	44.7	1,430
	05/11/20	0.166	103	560	0.365 J	6.74	43.3	1,300
	09/09/20	0.242	101	573	0.575	6.79	44.0	1,320
	06/17/21	0.116	90.4	440	0.471	6.72	33.8	1,160
	10/11/21	0.124	81.8	376	0.453	6.73	35.2	1,040
	05/11/22	0.121	73.7	323	0.491	6.63	30.5	890
	09/27/22	0.14	78.2	472	0.433	6.57	41.6	1190
	05/26/23	0.0948	54.2	244	0.634	6.55	24.9	679
	08/21/23	0.14	105	577	0.371	6.64	45.5	1390

APPENDIX III ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Prediction Limit:		0.141	471	6,340	0.781	6.10 7.23	409	13,000
Downgradient Wells								
FGD-1	11/03/15	0.065	11	36.4	0.363 J	6.31	32	245
	12/17/15	0.0706	10.6	37.7	0.384 J	6.33	33.3	224
	02/09/16	0.0539	11.4	38.9	0.383 J	6.81	36.3	235
	04/14/16	0.0867	12.2	38.6	0.229	6.24	35.7	77
	06/15/16	0.066	12	39	0.302 J	6.75	41.2	258
	08/24/16	0.0601	13.5	42.1	0.225 J	6.58	46.6	193
	10/05/16	0.0629	14.2	38.7	0.483	6.78	44.2	266
	12/22/16	0.058	13.7	42.6	0.326 J	5.79	49.3	271
	10/03/17	0.0973	18.5	40	0.276 J	6.91	64.7	239
	06/05/18	0.0686	18.3	44.7	0.206 J	5.58	68.6	277
	09/06/18	0.0738	19.9	52.5	0.228 J	5.78	80.8	281
	05/15/19	0.0803	19.5	62.4	0.362 J	6.63	78.7	320
	08/19/19	0.0864	26.1	69.3	0.486	6.49	80.9	328
	05/11/20	0.121	37.8	146	0.231 J	6.95	79.5	448
	09/09/20	0.0871	36	320	0.215 J	6.73	158	875
	06/17/21	0.0843	35.7	299	0.356 J	6.89	140	935
	6/17/21 DUP	0.0808	35.7	304	0.352 J	6.79	143	960
	10/12/21	0.103	31.9	244	0.295 J	6.72	133	897
	05/11/22	0.116	22.2	201	0.348 J	6.75	100	747
	05/11/22 DUP	0.113	22	203	0.319	6.75	101	756
	09/27/22	0.101	23.2	146	0.217 J	6.72	74.6	514
	9/27/22 DUP	0.0944	22.5	134	0.234 J	6.72	73.4	509
	05/26/23	0.0881	15.6	73.9	0.405	6.64	72.4	415
	5/18/23 DUP	0.0818	2.82	6.66	<0.100	6.64	1.33 J	111
	08/22/23	0.0776	24.8	72.4	0.264	6.69	84.5	367
	8/22/23 DUP	0.0763	24.9	72.5	0.258	6.69	84.5	376
FGD-2	11/03/15	0.1	77.1	460	0.224	6.47	147	1,370
	12/17/15	0.0636	24.8	133	0.347 J	6.77	53.2	515
	02/09/16	0.0885	44.6	250	0.315 J	7.06	98.9	750
	04/14/16	0.136	53.8	285	0.192	6.54	103	924
	06/14/16	0.0729	26.8	138	0.122 J	6.73	62.2	564
	08/24/16	0.219	79.9	421	<0.100	6.75	158	1,060
	10/05/16	0.182	58.3	310	0.243 J	6.76	114	910
	12/22/16	0.251	95.3	570	<0.100	6.70	174	1,450
	10/03/17	0.362	151	813	<0.100	6.81	222	1,920
	06/05/18	0.352	91.6	465	0.185 J	6.1	148	1,190
	09/06/18	0.35	154	902	0.32 J	6.11	196	1,860
	05/16/19	0.105	38.9	260	0.383 J	6.86	70.7	729
	08/19/19	0.192	167	863	0.413	6.88	218	1,890
	05/11/20	0.605	217	1,150	<0.100	6.61	286	2,300
	09/09/20	0.567	193	1,030	<0.100	6.57	301	2,150
	06/17/21	0.195	76.4	422	<0.100	6.84	133	1,030
	10/12/21	0.473	245	950	<0.100	6.57	467	2,630
	10/21/21 DUP	0.492	249	921	<0.100	6.57	477	2,460
	05/10/22	0.605	254	1010	<0.100	6.74	533	2,580
	09/27/22	0.612	239	1100	<0.100	6.84	516	2700
	05/26/23	0.599	176	851	<0.100	6.72	409	2080
	08/21/23	0.609	210	1010	<0.100	6.78	505	2360

APPENDIX III ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Prediction Limit:		0.141	471	6,340	0.781	6.10 7.23	409	13,000
FGD-3	11/03/15	0.343	108	439	0.505	6.51	479	1,950
	12/17/15	0.255	109	399	<0.100	6.64	478	1,640
	02/09/16	0.214	91.4	326	0.74	6.76	474	1,610
	04/14/16	0.231	98.1	314	0.69	6.59	396	1,980
	06/14/16	0.207	80.1	267	0.173 J	6.59	338	1,440
	08/24/16	0.112	90.4	279	0.463	6.89	357	1,490
	10/05/16	0.212	88.1	264	0.723	6.85	324	1,370
	12/22/16	0.196	82.6	290	1.32	6.1	392	1,490
	10/03/17	0.244	97	245	0.457	6.75	317	1,190
	06/05/18	0.199	82.7	234	1.06	5.99	319	1,260
	09/05/18	0.0379	73.9	227	1.03	6.21	306	1,260
	05/16/19	0.117	60.1	117	0.776	6.73	182	1,100
	08/19/19	0.134	51.1	84.9	0.874	6.72	150	882
	05/06/20	0.152	42.3	70.2	0.8	6.62	129	777
	09/09/20	0.130	36.8	58.5	0.772	6.82	122	709
	06/16/21	0.121	39	64.1	1.2	6.87	130	741
	10/11/21	0.0956	35.3	42.5	1.08	6.69	105	671
	05/10/22	0.101	27.1	28	1.05	6.82	86.6	597
	09/27/22	0.118	28	36.5	0.959	6.69	93.8	615
	05/26/23	0.112	32.5	55.5	0.981	6.72	119	708
	08/21/23	0.0956	26.3	33.4	1.06	6.92	86.8	618
FGD-4	11/03/15	0.0694	46.1	200	0.294 J	6.71	37.8	679
	12/17/15	0.0777	47.8	211	0.295 J	6.44	38.2	647
	02/09/16	0.0581	45.3	195	0.32 J	6.85	45	653
	04/14/16	0.0726	50.3	182	0.323	6.59	55.4	726
	06/14/16	0.0728	47.5	210	<0.100	6.68	37.9	689
	08/24/16	0.343	52.5	208	0.148 J	6.74	53.3	704
	10/05/16	0.0672	48.1	182	0.376 J	6.85	56	672
	12/22/16	0.0628	44.5	181	0.251 J	6.29	65.4	676
	10/03/17	0.225	54.9	182	0.219 J	6.82	69.8	659
	06/05/18	0.0839	49.4	200	0.297 J	6.15	46.6	648
	09/05/18	0.108	40.9	193	0.353 J	6.29	55.8	672
	05/16/19	0.0733	41.7	205	0.327 J	6.57	41.7	651
	08/19/19	0.085	42.5	188	0.67	6.69	5.4	681
	05/11/20	0.145	40.6	198	0.3 J	6.62	52.9	702
	09/15/20	0.109	33.6	197	<0.100	6.87	50.1	674
	06/16/21	0.0932	36.6	198	0.517	6.92	45.9	654
	10/11/21	0.0801	32.9	185	0.398	6.69	47.6	670
	05/10/22	0.0751	30.2	183	0.433	6.73	44.5	637
	09/27/22	0.0993	24.2	177	0.383 J	6.71	43.8	617
	05/26/23	0.0871	30.9	180	0.543	6.55	43.6	619
	08/21/23	0.0848	26.2	178	0.43	6.77	43	622

APPENDIX III ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Prediction Limit:		0.141	471	6,340	0.781	6.10 7.23	409	13,000
FGD-5	11/04/15	0.0719	30.2	230	0.334	6.92	54.7	1,040
	12/17/15	0.0798	32.5	254	0.333 J	6.74	56.1	845
	02/09/16	0.0926	89.5	356	0.495	6.6	62.8	942
	04/14/16	0.107	101	359	0.491	6.71	50.8	1,510
	06/15/16	0.11	88.9	368	0.284 J	6.73	55.1	735
	08/24/16	0.0394	102	372	0.168 J	6.89	58.8	770
	10/05/16	0.0995	99.9	344	0.38 J	6.92	57.3	1,260
	12/22/16	0.0982	90.6	301	0.291 J	6.1	65.5	893
	10/03/17	0.211	100	309	0.211 J	6.76	60.2	826
	06/05/18	0.11	100	303	0.511	6.13	61.2	795
	09/06/18	0.215	93.1	317	0.548	6.17	64.8	840
	05/16/19	0.108	77.7	287	0.579	6.46	67.2	801
	08/19/19	0.114	90.7	283	0.863	6.76	70.7	816
	05/11/20	0.165	100	307	0.413	6.82	83.8	836
	09/10/20	0.154	96.6	310	0.617	6.84	95.9	845
	06/17/21	0.116	103	308	0.593	6.84	107	795
	10/11/21	0.0957	114	290	0.459	6.53	107	898
	05/10/22	0.103	115	320	0.474	6.86	114	900
	09/27/22	0.122	114	337	0.446	6.59	131	1010
	05/26/23	0.112	111	333	0.495	6.62	140	945
	08/21/23	0.123	115	338	0.501	6.87	135	990
FGD-6	11/03/15	0.0968	79.3	355	0.227	6.92	33.8	1,070
	12/17/15	0.103	89.9	342	0.469	6.52	65.9	940
	02/09/16	0.0791	31.8	252	0.354 J	7.12	59.5	940
	04/14/16	0.0936	36.4	259	0.442	6.71	57.9	1,140
	06/14/16	0.0955	33.9	237	<0.100	6.48	49.8	813
	08/24/16	0.0355	35.6	285	0.147 J	6.95	64.7	750
	10/05/16	0.102	35.3	275	0.364 J	6.94	60.2	1,010
	12/22/16	0.0847	35.6	286	0.204 J	6.34	64.4	905
	10/03/17	0.139	40.4	255	0.143 J	6.64	58.4	855
	06/05/18	0.0948	36.3	246	0.361 J	6.35	51.7	895
	09/05/18	0.0824	30.4	230	0.405	6.4	51.4	833
	05/16/19	0.116	20.3	170	0.669	6.85	51.3	710
	08/19/19	0.102	23.6	158	0.741	6.72	60.3	754
	05/06/20	0.109	27.4	189	0.292	6.75	70.7	746
	09/15/20	0.112	20.2	144	0.354 J	6.77	89.6	688
	06/16/21	0.0854	29	222	0.452	6.80	76.3	799
	10/11/21	0.105	19.1	130	0.616	6.57	73.2	656
	05/10/22	0.0914	27	236	0.391 J	6.64	80.2	791
	09/27/22	0.106	21.2	185	0.484	6.73	79.8	734
	05/26/23	0.0849	29.6	295	0.344	6.55	61	915
	08/21/23	0.0953	24.3	234	0.468	6.88	56.8	817

APPENDIX III ANALYTICAL DATA
OGSES FGD PONDS

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Prediction Limit:		0.141	471	6,340	0.781	6.10 7.23	409	13,000
FGD-12	11/04/15	0.0651	16.6	19.4	<0.100	6.68	20	217
	12/17/15	0.0671	13.2	15.5	0.159 J	6.47	16.6	161
	02/09/16	0.065	11.1	13.5	0.157 J	6.99	14.1	179
	04/14/16	0.0753	14.7	25.4	0.109	6.47	15.8	163
	06/15/16	0.0711	11.2	19.5	0.101 J	6.52	13.4	253
	08/25/16	0.0858	52.8	296	<0.100	6.86	33.8	817
	10/04/16	0.0682	12.5	17.8	0.129 J	6.74	10.5	142
	12/23/16	0.0512	260	1,250	0.112 J	6.95	174	3,270
	10/03/17	0.0731	10.4	10	0.154 J	6.76	10.8	134
	06/05/18	0.0812	8.74	12	0.137 J	6.37	13.7	196
	09/06/18	0.0698	6.78	14	<0.100	5.60	13.1	134
	05/16/19	0.0723	6.79	16	<0.100	6.52	15	140
	08/19/19	0.0794	10.5	16	0.145 J	6.71	17.1	209
	05/11/20	0.149	15.6	19.3	<0.100	6.59	19.9	198
	09/09/20	0.120	9.34	13.0	<0.100	6.82	14.1	166
	06/17/21	0.102	12.3	16.1	<0.100	6.97	18.3	202
	10/12/21	0.0759	8.69	12.5	0.101 J	6.53	18.1	195
	05/11/22	0.0659	8.44	11.3	<0.100	6.82	16.4	185
	09/27/22	0.0831	8.86	11.8	<0.100	6.79	15.7	185
	05/26/23	0.0723	8.79	13.9	<0.100	6.68	17.4	172
	08/21/23	0.0770	8.96	11.8	<0.100	6.78	14.7	199

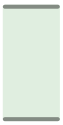
Notes:

1. Abbreviations: mg/L - milligrams per liter; TDS - total dissolved solids; s.u. - standard units.
2. J - Concentration is below method quantitation limit; result is an estimate.

APPENDIX D

CONFIDENCE INTERVAL GRAPHS - APPENDIX IV CONSTITUENTS

EXPLANATION



95% Upper confidence limit

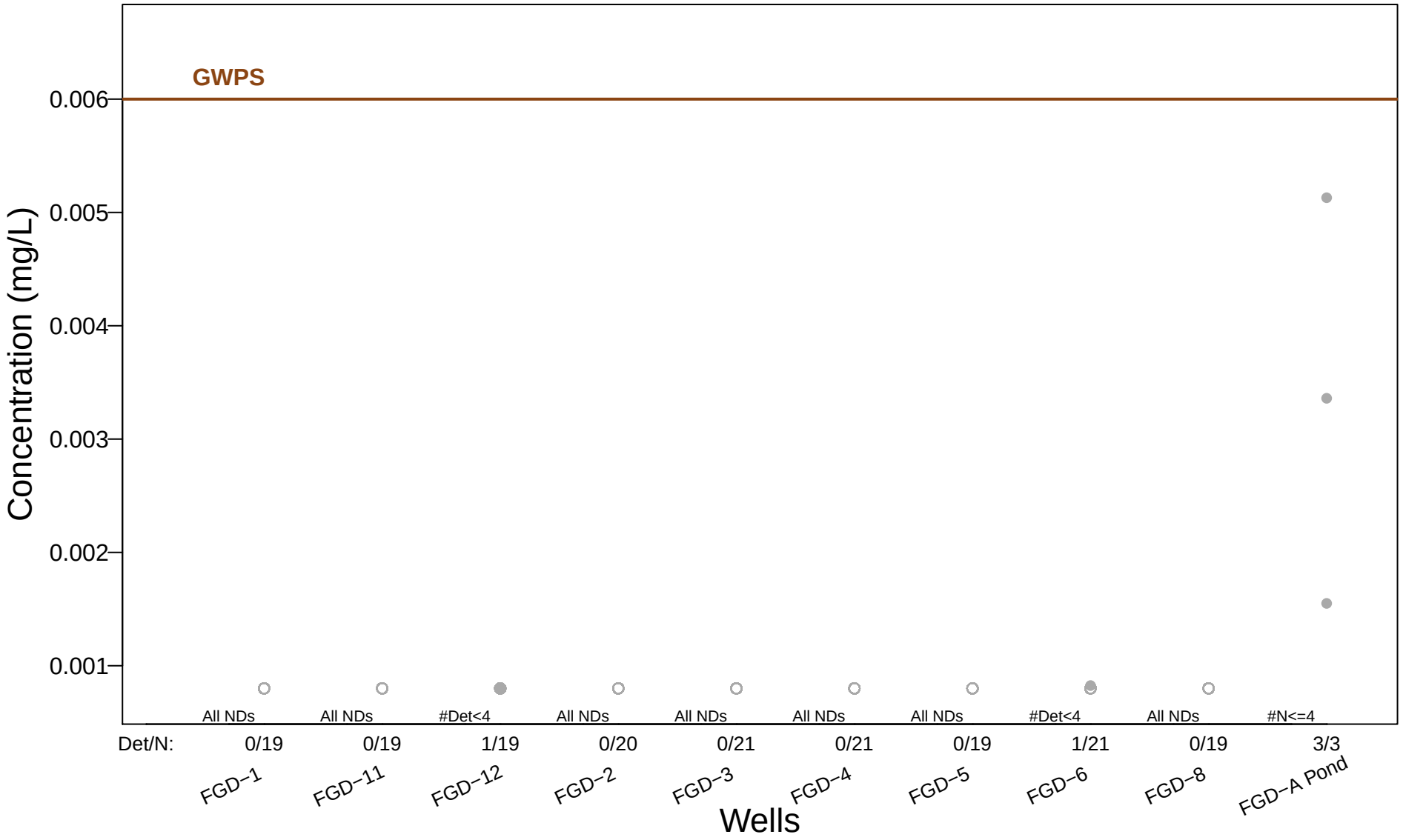
95% Lower confidence limit

Detected sample concentration

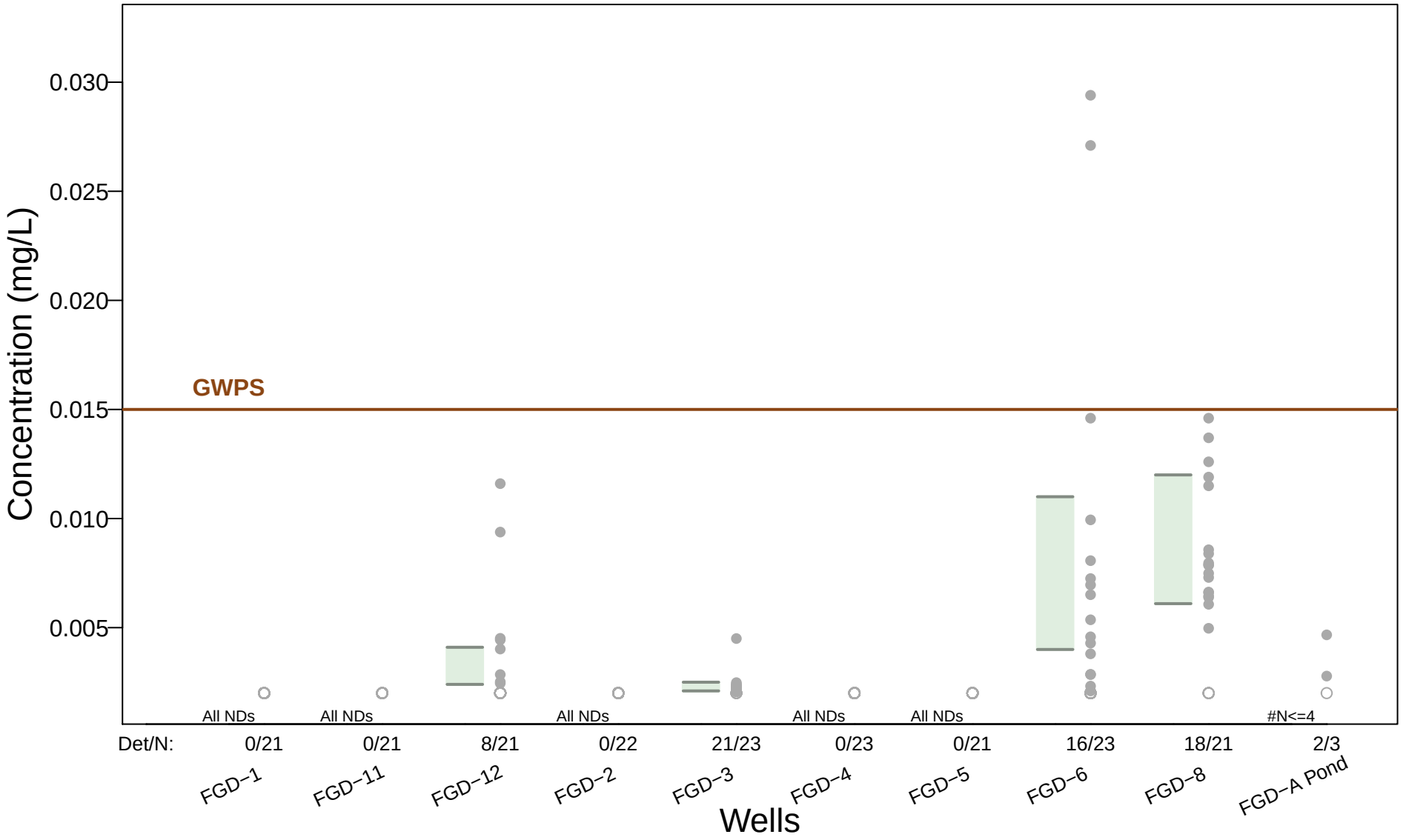
Non-detect sample result (concentration set to laboratory reporting limit)

Note: An SSL is indicated if the lower confidence limit exceeds the GWPS.

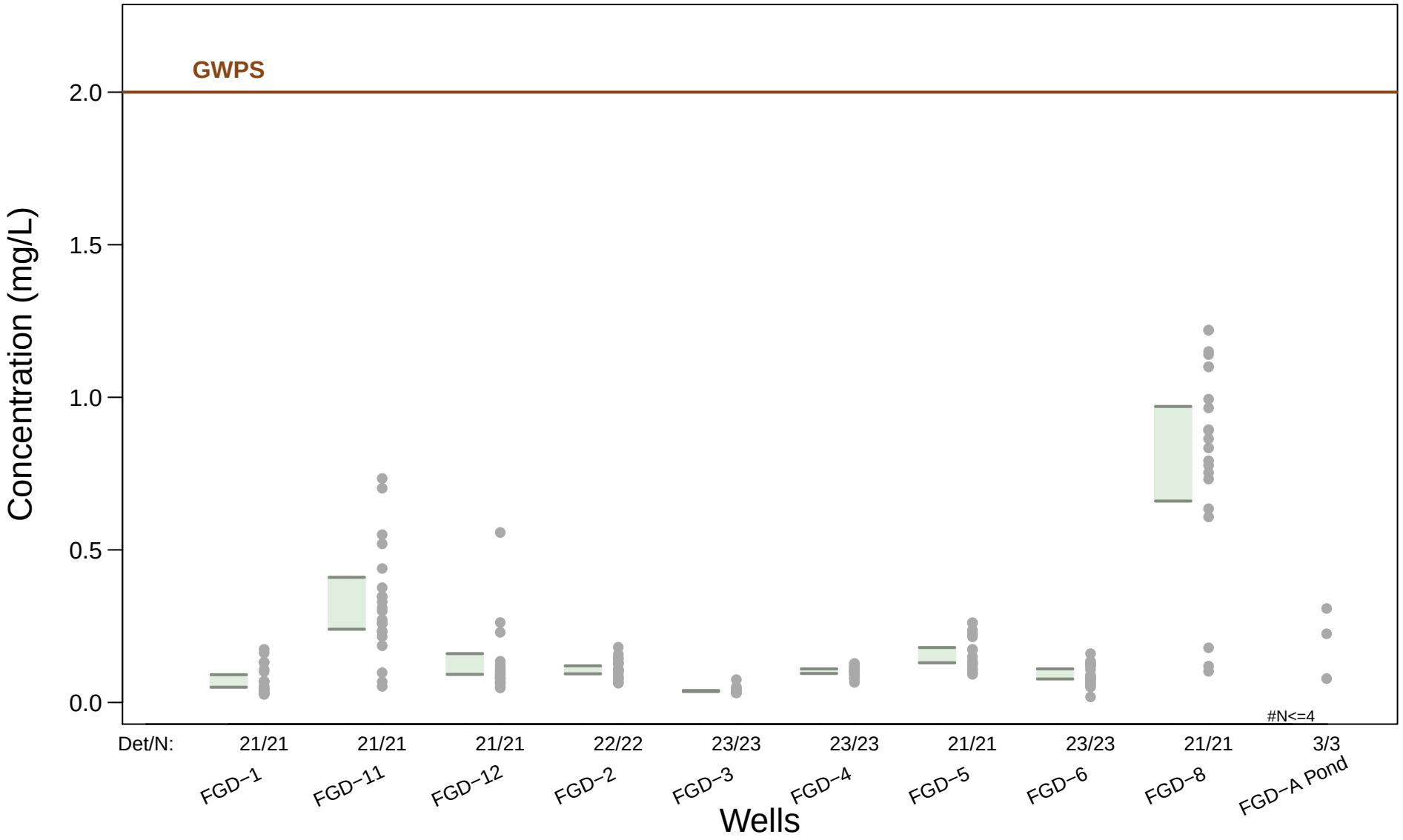
Antimony – 95% Confidence Intervals



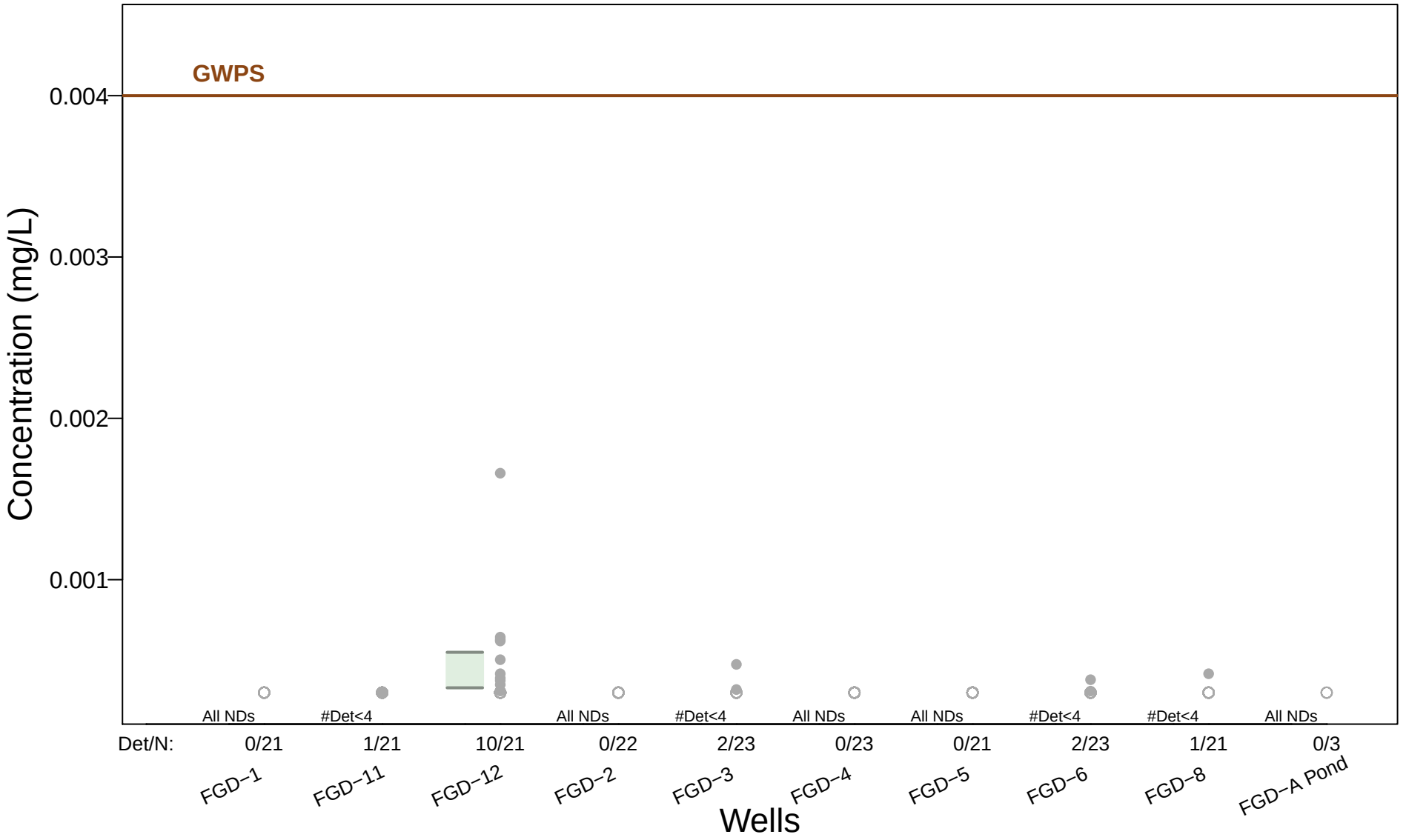
Arsenic – 95% Confidence Intervals



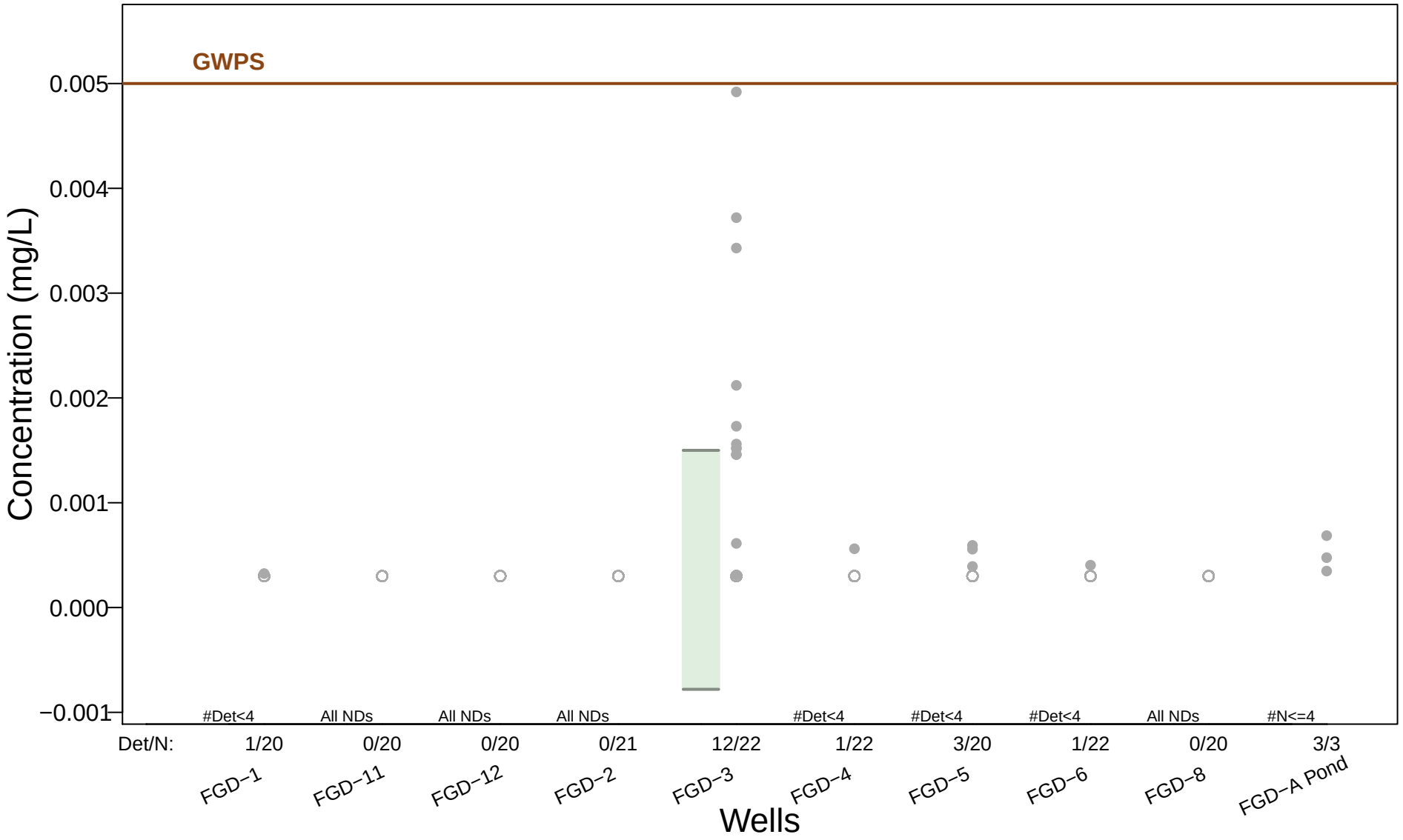
Barium – 95% Confidence Intervals



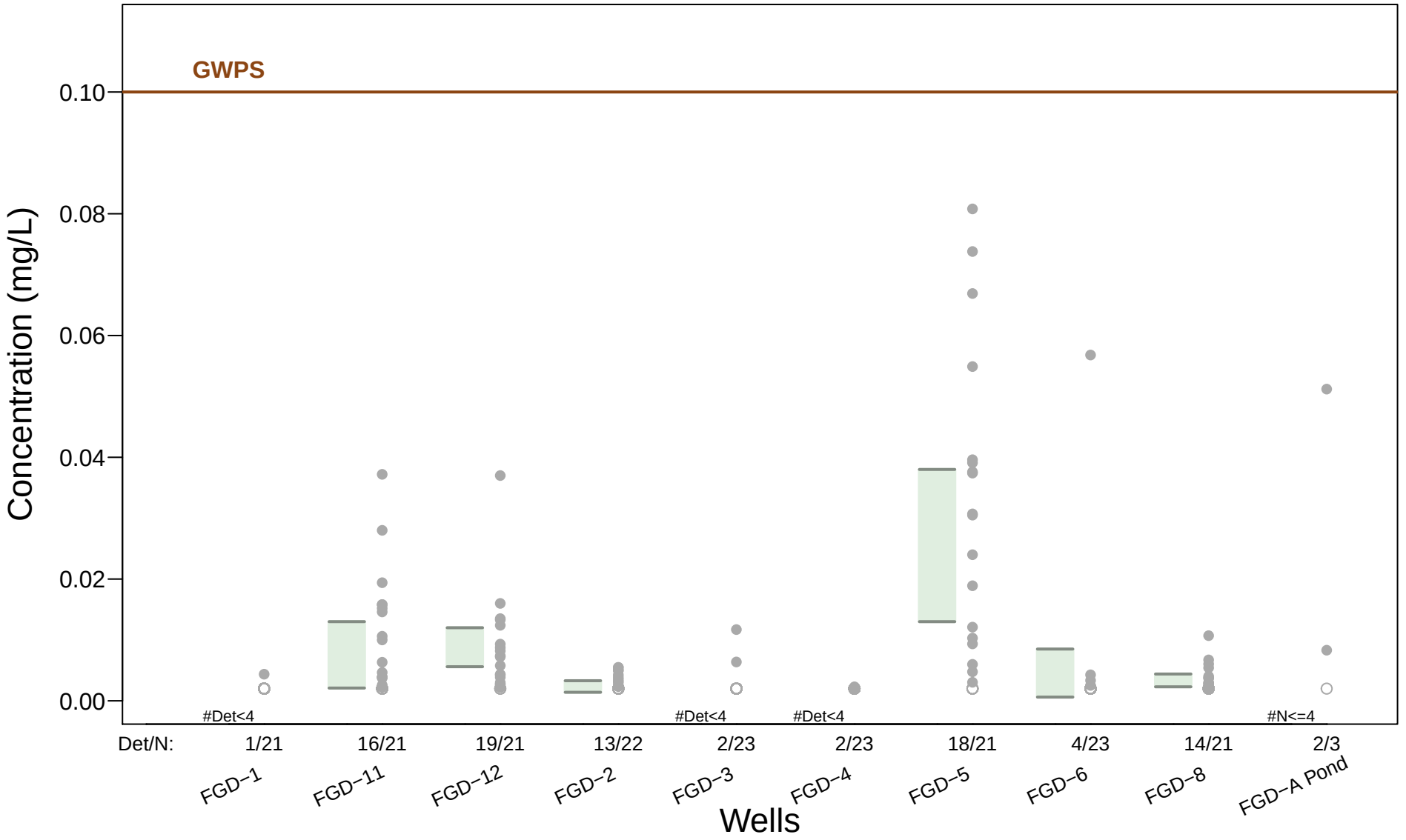
Beryllium – 95% Confidence Intervals



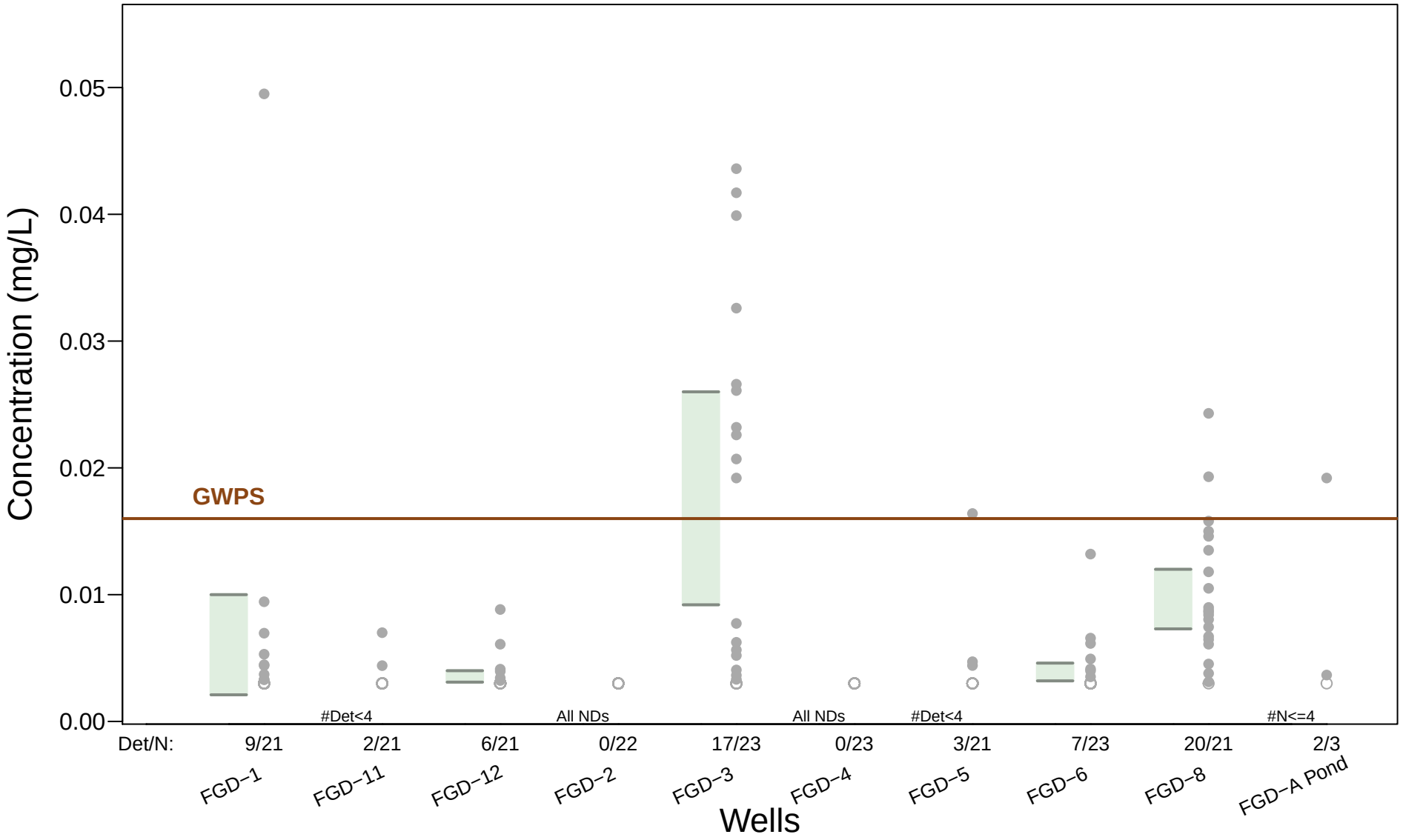
Cadmium − 95% Confidence Intervals



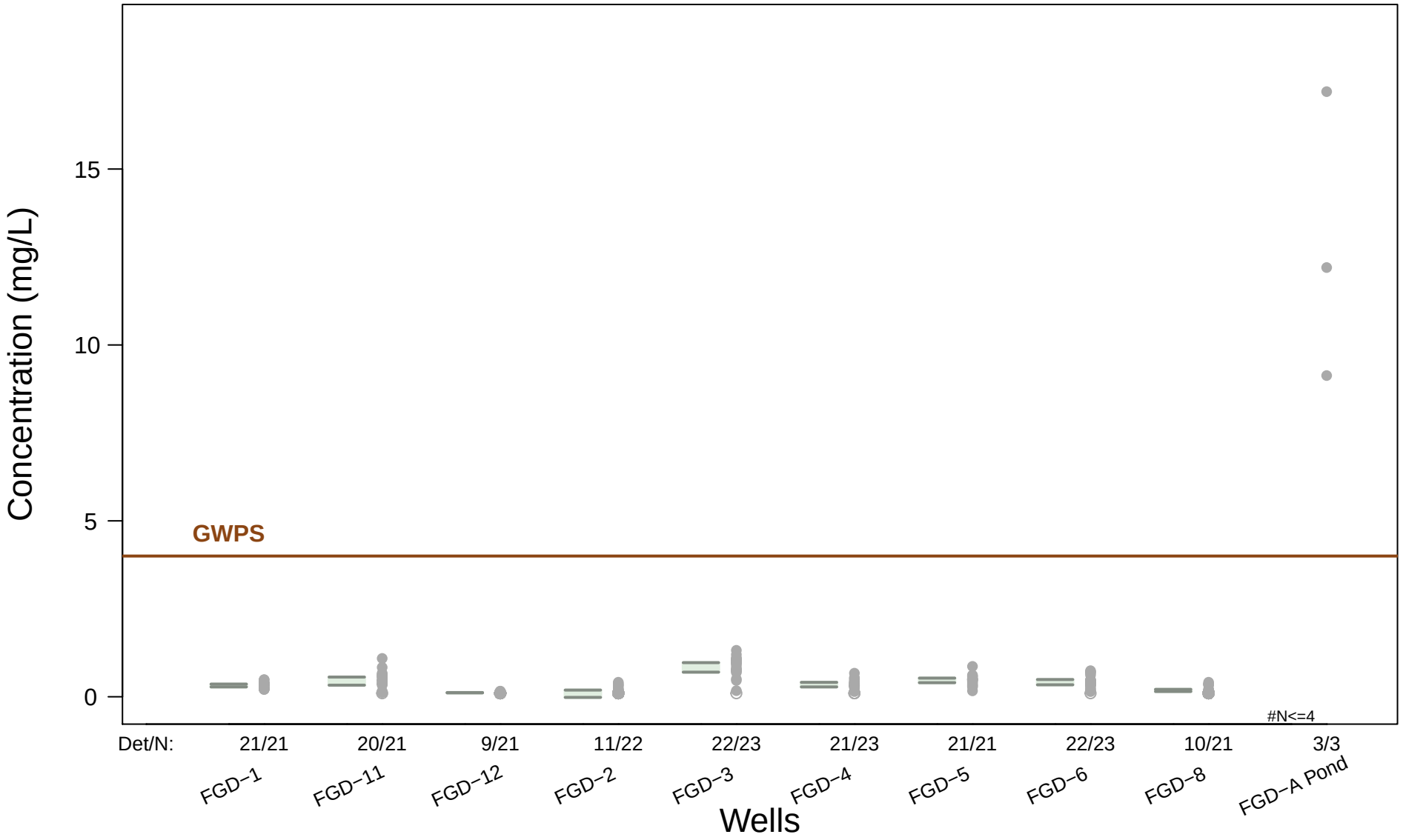
Chromium – 95% Confidence Intervals



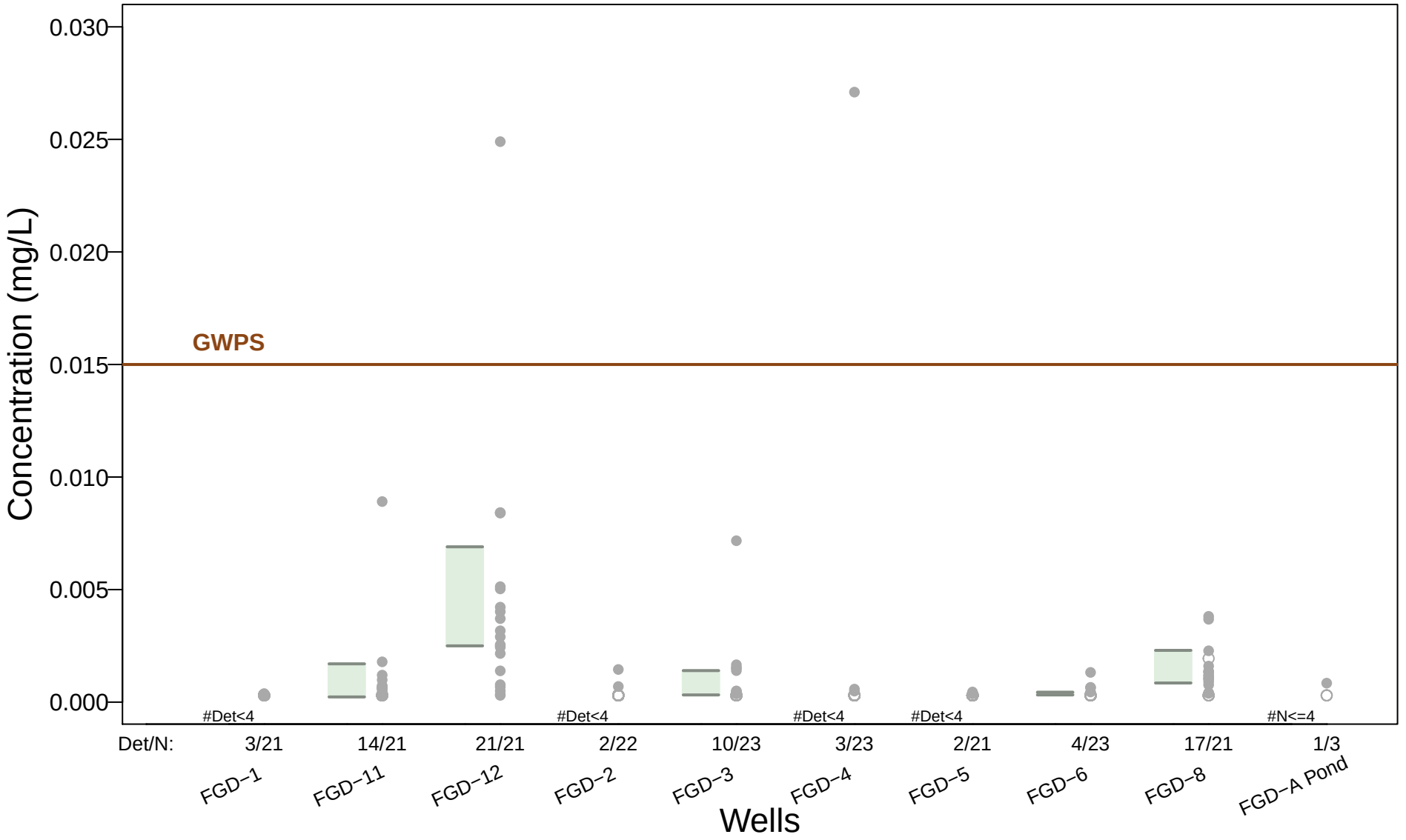
Cobalt – 95% Confidence Intervals



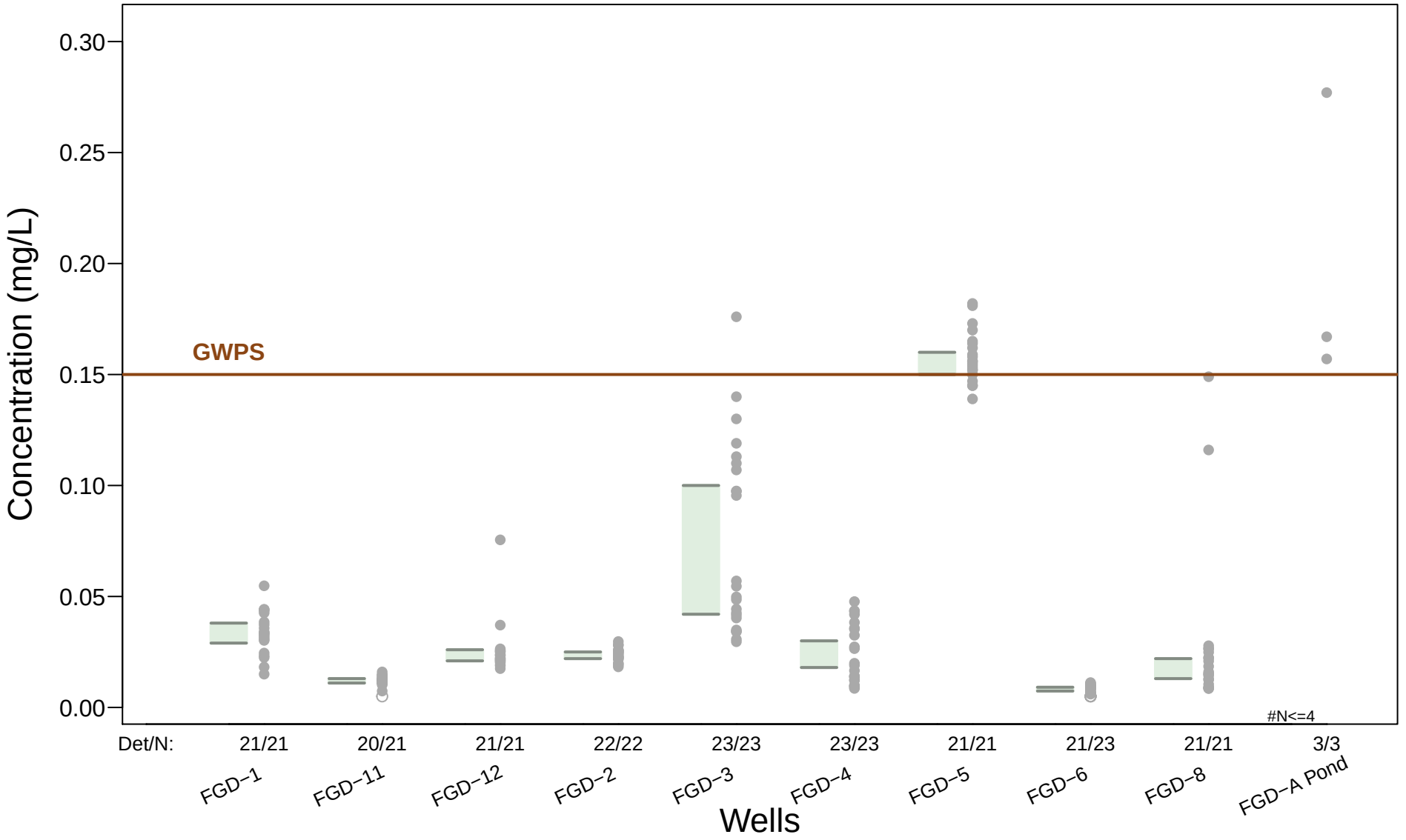
Fluoride (Appendix IV) – 95% Confidence Intervals



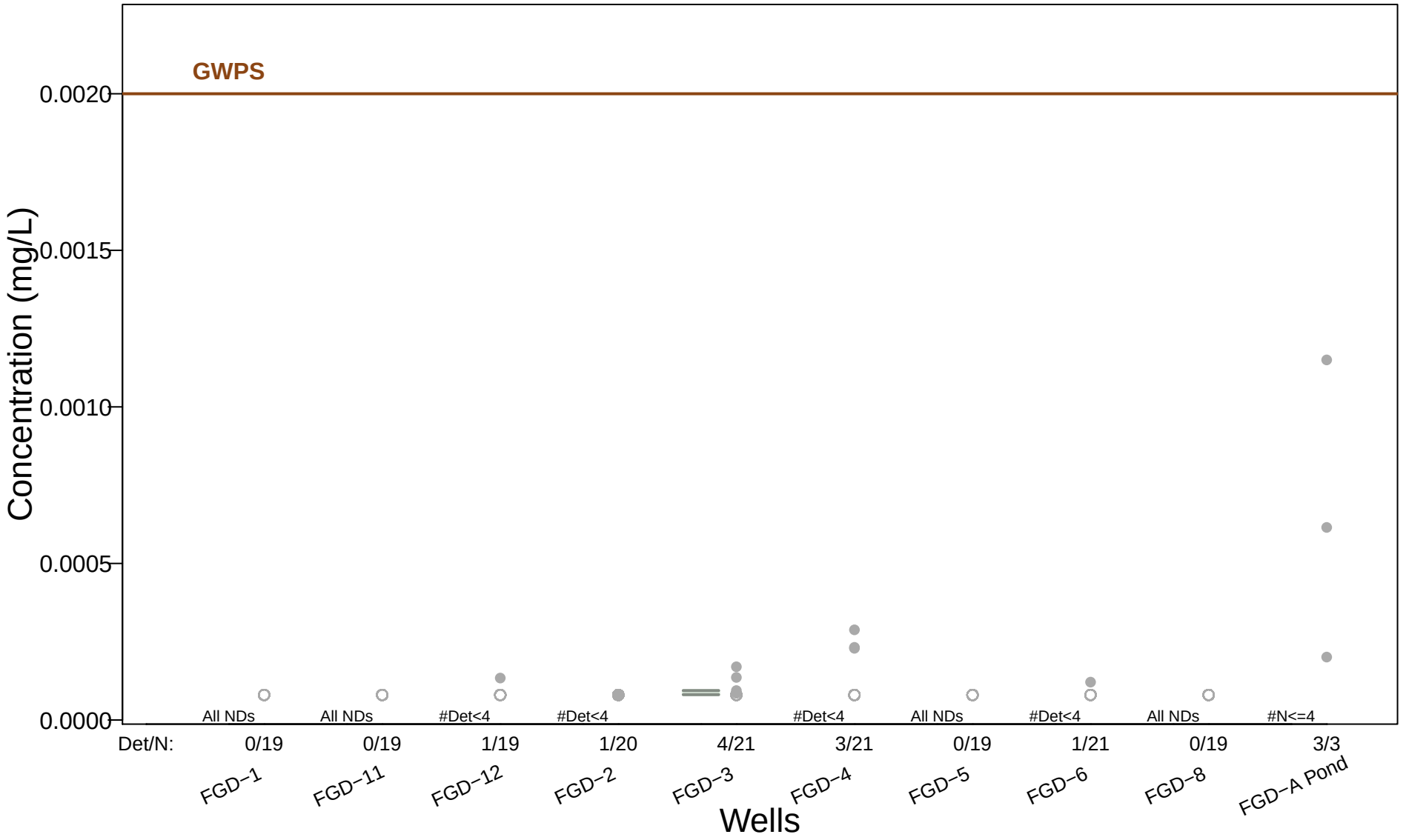
Lead – 95% Confidence Intervals



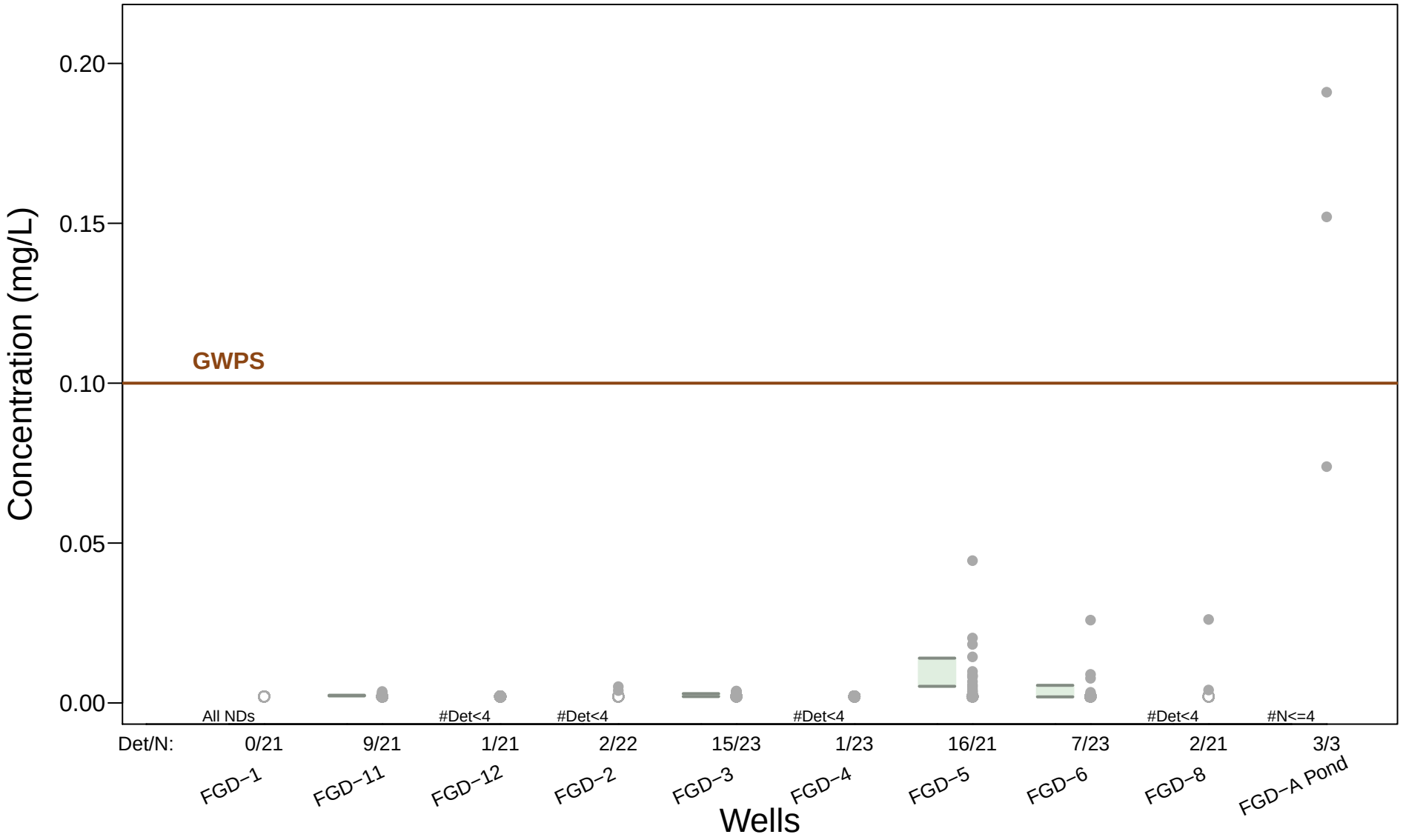
Lithium – 95% Confidence Intervals



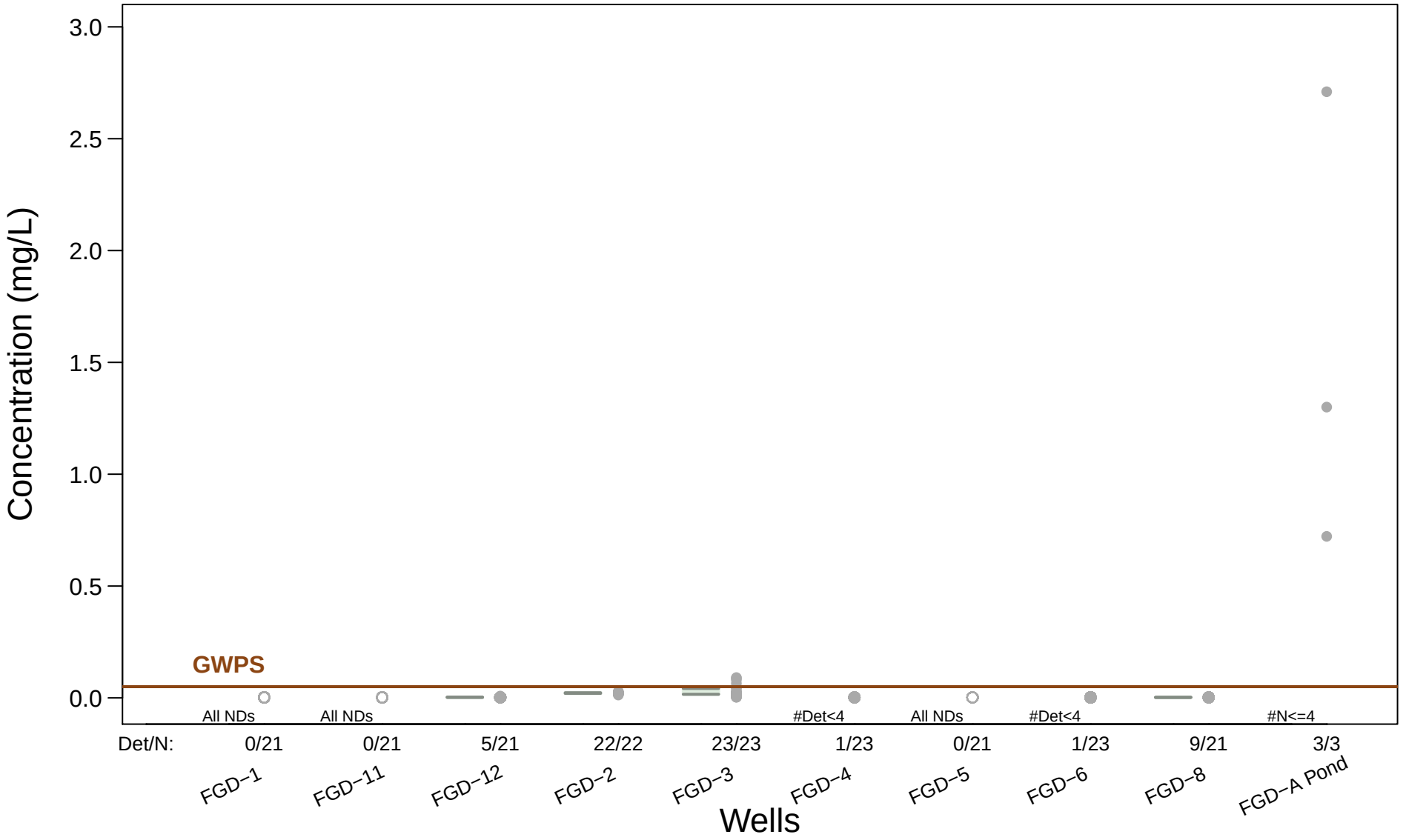
Mercury – 95% Confidence Intervals



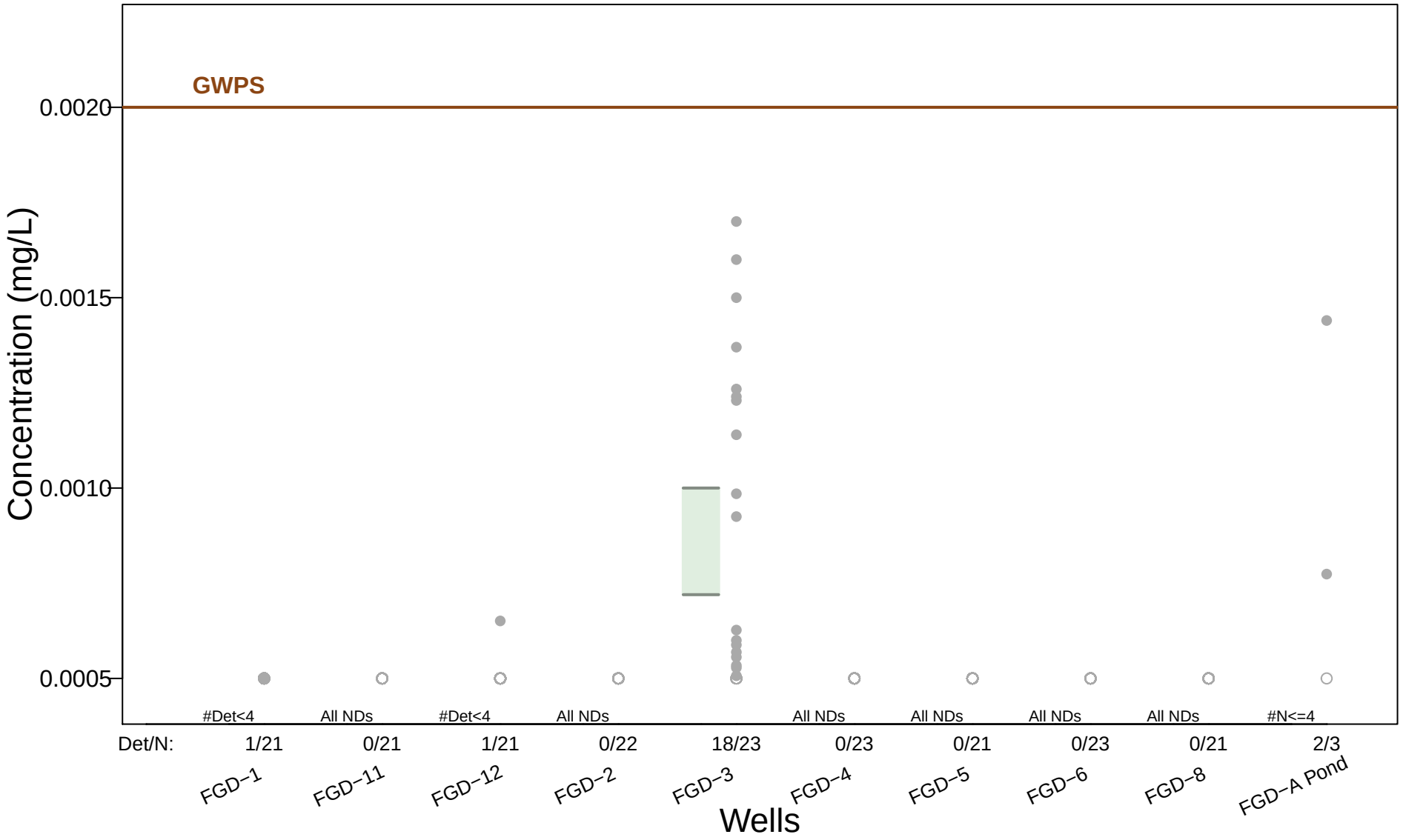
Molybdenum – 95% Confidence Intervals



Selenium − 95% Confidence Intervals



Thallium – 95% Confidence Intervals



Radium−226/228 combined − 95% Confidence Intervals